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ABSTRACT

This study concerns student teachers' views of the behavior of supervisors during the school practice periods in two Finnish Teachers' Colleges. It is divided into four parts. In part one, the structure of the behavior of supervisors as assessed by student teachers is analyzed, and the concepts used to describe the behavior are defined. Part two deals with the general problems of studying behavior, and a method for interpreting behavior by relationships between the concepts of a behavior is developed and discussed. In part three, the relationships between the concepts of the behavior of supervisors are defined by the method for interpreting behavior. Part four gives the interpretations of the behavior of supervisors based on the information about the relationships between the concepts of the behavior. The study gives primarily diagnostic knowledge about the behavior of supervisors and emphasizes the need to continue analyses to find out how the behavior should be changed to achieve better results in supervision. (JD)

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No. 37

November 1973

Seppo Kontiainen

THE BEHAVIOUR OF SUPERVISORS ASSESSED BY STUDENT TEACHERS

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THE BEHAVIOUR OF SUPERVISORS ASSESSED BY STUDENT TEACHERS

by

Seppo Kontiainen

Academic dissertation to be publicly discussed, by permission of the Division of History and Philology, in the University of Helsinki, in lecture room XII, on November 17th, 1973, at 12 o'clock noon

Helsinki 1973

HELSINGIN YLIOPISTON MONISTUSPALVELU 1973

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PREFACE

The present study concerns student teachers' views of the behaviour of supervisors during the school practice periods in two Finnish Teachers' Colleges. Student teachers' opinions of the behaviour of supervisors are considered especially important, because the effects of supervision during student teaching are on the student teachers themselves.

Another way of studying the behaviour of supervisors is to study the personality traits and attitudes of supervisors directly by psychological tests. This kind of information is of great interest, but it does not necessarily say anything about student teachers' reactions to supervision or how the behaviour of supervisors is experienced by student teachers.

In teacher training the kind of supervision the student teacher receives in school practice can play an important role in his personal development. The interaction between the student teacher and his supervisor and the student teacher's perception of this interaction are likely to be of more interest than the 'actual' behaviour of supervisors when evaluating the results of supervision. This is why the behaviour of supervisors in student teacher-supervisor relationships is assessed in this study by student teachers.

This study is divided into four parts. The general aims of the study will be expressed in terms of the strategy of the research;

(1) In Chapter I the structure of the behaviour of supervisors as assessed by student teachers is analyzed and the concepts used to describe the behaviour are defined.

(2) Chapter II deals with general problems of studying behaviour, and a method for interpreting behaviour by relationships between the concepts of a behaviour is developed and discussed.

(3) In Chapter III the relationships between the concepts of the behaviour of supervisors are defined by the method for interpreting behaviour.

(4) Finally, Chapter IV gives the interpretations of the behaviour of supervisors based on the information about the relationships between the concepts of the behaviour.

The method for interpreting behaviour given in Chapter II will be understood more easily if it is studied together with the practical solutions given in Chapter III. The results in Chapter IV are based on the analyses in the previous three chapters.

The present study was carried out at the Institute of Education, University of Helsinki and at the University Teaching Methods Unit, Institute of Education, University of London. The study is an independent part of a wider research project on teacher training, the Helsinki-Turku Project led by Associate Professor Johannes Alikoski.

I wish to express my most sincere thanks to Professor Emeritus Matti Koskenniemi, the former Head of the Institute in Helsinki, and to Dr. Ruth Beard, Director of University Teaching Methods Unit, who provided me with stimulating conditions for research.

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Seppo Kontiainen

CHAPTER I

STRUCTURE OF THE BEHAVIOUR OF SUPERVISORS

1. Introduction

One of the main aims in teacher training is to develop the teacher's professional roles. The objectives of teacher education define the aspects of the teacher's role (roles) which are seen as important at a given time. Objectives are usually expressed in very general and abstract terms. In practice, each college of education, and in fact each member of the college staff, define the objectives of teacher training by teaching, supervising and other activities.

Objectives for school practice mainly determine the content of school practice and the forms that student teaching takes. In addition, student teaching is affected by the supervisor's views of the role of the supervisor, of himself in this role and his personal objectives in teacher training. The student teacher, his views of himself, of school practice, supervising and the role of the teacher, and his experiences as a student teacher affect the final result of teacher training, the professional role of the teacher.

In school practice a student teacher is more or less dependent on his supervisors (college staff and school staff) who organise and control his activities as a student teacher. The quality of the interaction between supervisor and student teacher mainly determines how

this kind of relationship is experienced and how it will affect the development of the professional role of the prospective teacher.

Metzner (1969) has referred to several studies of student teaching, and agrees with Wood (1964) who found that the academic preparation or techniques of classroom presentation are not the major problems in student teaching. The major problems are the interpersonal relationships between student teacher and pupils and between student teacher and supervising teacher. The relationship between the student teacher and the supervising teacher can be seen as a critical one in the training of teachers.

Although the importance of personal relationships in teacher training is generally realised, there has been little investigation into the role of student teacher and supervisor in the school practice context.

Studies of teacher training are often directed towards the personality traits and attitudes of the student teacher. Changes of attitudes during teacher training have also been studied (see Heikkinen 1962, Corrican & Griswold 1963, Karvonen 1967, Campbell 1967). Changes in educational attitudes of student teachers are found to be closely related to the attitudes of their supervising teachers (Price 1961).

Rees (1969) studied the attitudes of college students to their teachers. His findings showed that a student's view of teachers results from an interaction of the student's previous experiences and personality with the actual behaviour of the teacher.

Cope (1971) has investigated school experience in teacher education. She used a questionnaire to study the expectations that students, college staff and school

staff had of the role of student teachers and supervisors. She found that student teachers and school teachers have similar role expectations of supervisors. The college staff see their supervisory role as primarily one of guidance, and their behaviour in that role as constructive and supportive. Student teachers and school teachers tend to see the supervisor as an 'unrealistic' visitor into the school situation. College staff seemed to give less weight than do the students and teachers to the effect of supervisory procedures. College staff see students as willing subject suggestions to critical challenge, ready to seek help from supervisors, motivated by concern for pupils' needs. Students see themselves in a less positive light. One reason for this difference could be that supervisors have given an ideal version of the role of student teachers while students were more realistic in their responses.

In a study by Hytönen (1970) the supervisors (college lecturers) estimated the behaviour of student teachers. His findings indicate that supervisors could keep separate in their ratings the actual student teaching behaviour and the behaviour of student teachers in interaction with supervisors.

As far as the behaviour of supervisors can be compared with the teacher's classroom behaviour, there are more research results available. In an often cited study of teacher classroom behaviour by Ryans (1960) several independent patterns of teacher behaviour were suggested by direct observation and assessment of teacher classroom behaviour. Three patterns in particular appeared to stand out in separate factor analyses of elementary and secondary teacher data:

(1) TCS Pattern X_o, which indicates warm, understanding, friendly vs. aloof, egocentric, restricted teacher behaviour,

(2) TCS Pattern Y_o - responsible, businesslike, systematic vs. evading, unplanned, slipshod teacher behaviour and,

(3) TCS Pattern Z_o - stimulating, imaginative, surgent vs. dull, routine teacher behaviour.

In factor analytical studies of teachers' behaviour two prominent aspects are most frequently found. One concerns teachers' attitudes to pupils and the other is related to teachers' communication with pupils in the subject context. These two levels of communication are also involved in the role of the supervisor in interaction with student teachers.

2. Aims

The behaviour of supervisors (college lecturers) can be defined in this study as a kind of behaviour which is related to the interaction between supervisors and student teachers in the context of school practice. The aims of the study are:

(1) to develop a research method for the study of supervisor-student teacher relationship,

(2) to study the structure of the behaviour of supervisors based on the assessments of student teachers and,

(3) to study the stability of the concepts that are used to describe the behaviour of the supervisors.

The reasons for using a questionnaire as a research method for studying supervisor-student relationships were mainly practical. Observation methods, for instance, might

have been useful, but were very difficult to carry out. This was partly because there were altogether more than fifteen hundred individual supervisor-student relationships in the sample and partly because all the student teachers had their school practice at the same time.

In this chapter I shall be exploring the concepts used to describe the behaviour of supervisors. When the structure of concepts is clarified the concepts will be used as a basis for further research.

3. Research Design

3.1. Subjects

In this study the supervisors of the Helsinki and Turku Teachers' Colleges were evaluated by second year students during the academic year 1966-67. The two colleges were chosen because this work was part of a wider research project, the Helsinki-Turku Project.

There were 189 evaluators (student teachers) divided as follows:

Helsinki Teachers' College (College A):	women	48
	men	46
Turku Teachers' College (College B):	women	47
	men	48

The student teacher assessed the behaviour of his supervisors. Each student teacher assessed 8 or 9 supervisors in College A, and 7 on average in College B. The two colleges each had 16 supervisors.

The following breakdown gives the totals of female and male student teachers for each supervisor in the two colleges:

College A	supervisors															
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
women students	48	24	--	42	44	21	44	34	44	10	16	11	46	44	--	19
men students	45	15	45	--	--	20	42	39	44	10	20	6	45	--	41	23
total	93	39	45	42	44	41	86	73	88	20	36	17	91	44	41	42

College B	supervisors															
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
women students	--	--	9	26	38	35	12	39	17	40	30	26	9	--	23	12
men students	36	29	--	--	21	24	44	12	19	48	--	--	27	41	24	11
total	36	29	9	26	59	59	56	51	36	88	30	26	36	41	47	23

The number of assessments made on each supervisor were generally larger in College A than College B, since in College B there was no one particular supervisor in charge of all the student teachers.

The instructions on the questionnaire left the student teacher to decide which supervisor to evaluate. On average one to two evaluations per supervisor were missing. This number was so small that it was unlikely to affect the total picture of the supervisor.

In this study I was not concerned with teachers in practice schools for a number of reasons. The role of supervisor includes both the role of college lecturer and the role of school practice supervisor. Student teachers knew their supervisors from their theoretical studies in the college, but the teachers in practice schools did not come into the picture until the period of student teaching itself. In addition, the supervisors check the lessons plans of the student teachers and superintend the post-lesson sessions of assessment. Thus the student

teachers' image of the supervisors is based on different experiences from that of practice school teachers.

3.2. Research Situation

At the time of research very little was being done to define objectives for student teaching and for the work of supervisors, and there was no special training for supervisors. This situation forced the supervisor to seek by himself his role as supervisor and his ways in communicating with the student teachers.

In the two colleges, school practice was divided into six teaching periods and each of them lasted four to five weeks. During each period a student teacher taught one or more subjects[1]. The student teachers assessed the behaviour of their supervisors in the spring when their student teaching was over, and they had met all their supervisors. A disadvantage was that contacts between student teachers and supervisors took place at different times during the academic year. This may have affected the assessment to some extent. However, if there were any 'conspicious' features in the student-supervisor interaction they would be likely to be remembered. From the point of view of the student teacher the initially rather neutral image of some supervisors would become even vaguer with time.

In another part of the research project Hytönen (1970) studied the part teaching rotation plays in the supervisors' evaluations of the behaviour of student teachers. He found that the supervisors were able to give as detailed and uniform evaluations of their first student

[1] More detailed information of the teacher training in Finland in the 1960's is available (cf. Koskenniemi et al. 1965).

teachers as of their last. From these observations it seems likely that teaching rotation would not greatly affect student teachers' evaluations of supervisors either. Students did not usually find out their mid-term grades, but in College A this year was unusual in that they did know them and this was before they filled in the questionnaire. This may have affected evaluations, so that students with low grades would be more likely to criticise and those with good grades more likely to praise. These effects will not be considered here.

3.3. Method and Primary Variables

A questionnaire was developed for the research to study the behaviour of the supervisors in the context of student teacher-supervisor relationship. Each supervisor was evaluated by his students. The need of the entire research project to discover variables describing the process of student teaching was taken into consideration in developing the questionnaire.

In the planning stage of this study and while drafting the items of the questionnaire I studied student teaching situations and attended subsequent discussions as an observer. The set of problems involved were also outlined through interviews with a few student teachers and with previously graduated teachers. Earlier research into student teaching (Koskenniemi et al. 1965; Asp et al. 1966 and 1967) and psychological self-image inventories (Häyrynen 1970) were used as bases for the development of the method in the building of conceptual references.

The questionnaire had to be reasonably short, because each student teacher had to assess several supervisors.

On the other hand, the concepts of supervising behaviour had to be clear.

The following sections were regarded as important:

1. The supervisor's work-centred behaviour
2. The supervisor's relationship with the student (supervisor-student interaction)
3. The effect of supervision on the student teacher's view of himself as a prospective teacher
4. The student teacher's interest in the subject taught.

The supervisor's work-centred behaviour concerns his attitudes to his own work as a supervisor, while the supervisor-student interaction shows the supervisor's attitude toward his student teachers. The effect of supervision deals with the student teacher's individual responses to the supervision given. The interest the student teacher takes in the subject taught is not directly linked with the image of the supervisor, but may affect the student teacher's attitudes. Interest in the subject was included for later studies outside this report.

The questionnaire with its instructions is given in Appendix 1. It has twenty points; one measures the student teacher's interest in the subject, the other nineteen concern the behaviour of the supervisor in school practice.

Variables were presented in a form similar to semantic differential (Osgood et al. 1957). Both extremes of each variable are explained by the concepts describing the supervisor's behaviour. Since relatively few variables could be included because of the large number of assessments, it was important that the concepts should be unambiguous. Nevertheless, a concept defined with a number of terms may easily be confused. In this work, concepts and their explanations are attached to a defined frame of reference (student teaching situations) common to nearly all student teachers. Different students should therefore understand the concepts in quite similar ways.

A summary of characteristics that describe the behaviour of supervisors is shown in Table 1. In this table variables 03, 08, 09, 12 and 14 can be described as being work-centred, variables 01, 02, 04, 05, 06, 07, 10, 11, 13 and 15 relate to the supervisor-student interaction, variables 16, 17, 18 and 19 are concerned with the effects of supervision, and variable 20 refers to the student teacher's interest in the subject taught.

3.4. Preliminary Analysis at the Level of Primary Variables

The primary variables of the research material have been dealt with in an earlier report (Kontiainen 1970). These include questions connected with the use of the evaluation scale, the dispersion of the variable pattern and the effect of the supervisor's age and sex on the assessments of the supervisory behaviour.

In the questionnaire a seven point scale between the extreme attributes was used. Means and standard deviations of the estimates are in Appendix 2. The analysis of the use of the scale by student teachers was made on the basis of means in each dimension. This indicated that student teachers had on the whole a slight tendency to assess their supervisors in a positive way. Data analyses were made together with the entire material.

Medians and quartiles of the intercorrelations between variables were used to study the dispersion of the variable pattern in each student teacher sub-group. Intercorrelations are given in Appendixes 3 a-e. The following gives the medians and quartile limits of absolute values of intercorrelations in various sub-groups:

TABLE 1. Summary of characteristics describing supervisor's behaviour

01. Supervisor's general attitude to student teachers
(non-authoritarian - authoritarian)

02. Supervisor's attitude to individual student teachers
(concerned - indifferent)

03. Supervisor's attitude to his own work
(easy-going - serious)

04. Supervisor's impartiality of evaluation
(impartial - biased)

05. Supervisor's personal approach to teaching
(flexible - inflexible)

06. Supervisor's general tone of evaluation after practice lessons
(positive - negative)

07 Supervisor's requirements for lesson plans
(general - detailed)

08. Clarity of instructions given to student teachers
(clear - unclear)

09. Supervisor's personal style of working
(fastidious - careless)

10. Supervisor's reaction to student teachers' opinions
(tolerant - intolerant)

11. Supervisor's agreeableness
(sympathetic - unsympathetic)

12. Supervisor's certainty in making comments
(unsure - confident)

13. Supervisor's involvement in student teacher's decisions
(encouraging independent decisions - restrictive)

14. Supervisor's view of teacher's tasks
(narrow-ranging - wide-ranging)

15. Supervisor's relevance in evaluating teaching practice
(relevant - irrelevant)

16. Effect of supervision on student's style of teaching
(positive - negative)

17. Effect of supervision on self-knowledge of student teacher
(positive - negative)

18. Effect of supervision on self-confidence of student teacher
(positive - negative)

19. Effect of supervision on ability to vary teaching methods
(positive - negative)

20. Student teacher's interest in subject taught
(interesting - boring)

	Q_1	Md	Q_3
College A, women	.44	.33	.16
College A, men	.43	.32	.19
College B, women	.41	.30	.17
College B, men	.45	.33	.19

The medians and quartile limits are almost the same in all sub-groups. The dispersion of intercorrelations is relatively large. The image of the behaviour of the supervisors obtained by the questionnaire is thus fairly versatile.

The significance of the supervisor's age and sex was examined by intercorrelations of age and sex and research variables in the questionnaire, and by t-testing. The age and sex of supervisors had little effect on the student teachers' evaluations of the supervisory behaviour; sex less than age.

3.5. Statistical Methods

When assessing supervisors, the student teacher was asked to do so on the basis of variables given in the questionnaire. This is not only a description of the supervisor; the student teacher's tendency to evaluate from the point of view of his own background is also involved. Student teachers' assessments of their supervisors are primarily to be regarded as estimates of supervisory behaviour, but they are also influenced by expectations and attitudes of student teachers themselves.

Two sources of variance are available in a semantic differential rating situation, these are the variance of the concepts used and the variance of the subject who make the rating (e.g. Nordenstreng 1969). Since the supervisors may behave differently with different student teachers, there is also variance in the behaviour of a

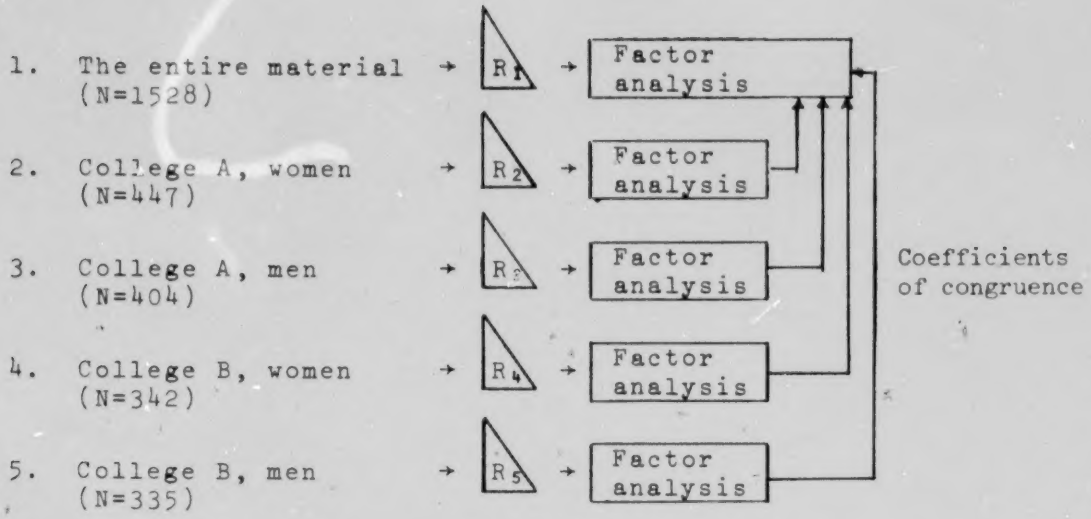
supervisor.

In this study I wanted to find a statistical method to develop the conceptual language shared by the supervisors and the student teachers and based on the variables in the questionnaire. Factor analytical approaches were used to clarify the structure of supervisory behaviour and the stability of the concepts used.

The factor analysis common to all the material was based on ratings of altogether 1520 individual supervisor-student interactions. It might have been possible to use the means of ratings by a student teacher of all his supervisors as a basis for analyses, since the estimates could then be seen as more stable. In this case, however, the opportunity of studying individual supervisor-student relationships, which will be my main concern in further research, is lost.

In addition to the shared factor analysis, the different sub-groups of student teachers have been analyzed. Comparison of the coefficients of congruence between the factors of the shared analysis and the sub-group factors shows how uniformly the variables are grouped in various student teacher sub-groups. In addition, intracolumn comparisons of the levels of factor loadings will be made between the correlative factors named through the coefficients of congruence. The object of these analyses was to test the stability of the concepts found in the shared analysis in order to use the factors as a basis for further research. The basic outline of the research is as follows:

Research Groups



(N=number of ratings for each variable)

Factor analyses: The factor analytical procedures used were the principal axis method and varimax rotation (e.g. Cooley & Lohnes 1962). In each analysis the correlation with the highest absolute value of each variable served as the estimate of communality. The preliminary break in the principal axis matrix was done so that the number of factors was one-third of the number of variables (cf. Nunnally 1967, 357). The higher breaking point was at the sixth factor, while the lower point was at the third factor, which was estimated to be clearly below the final number of factors. Varimax rotations were performed with all the factor numbers located between the breaking points. In defining the number of factors it was most important to find the solution that could be clearly interpreted. In each analysis attention was paid also to the eigenvalues, and to coefficients of congruence between alternative rotational solutions with which to determine the breaking point so that the structure of the factors had time to stabilize (Riihinen 1965, 231).

Comparison of factor structures in different analyses:
Inter-group differences of the factor structures are usually interesting mainly as a control to test the use of the factors of the shared analysis to describe the behaviour of all the supervisors. Comparisons were made in order to determine:

(1) the consistency of assessments of the behaviour of supervisors from group to group and,
(2) the applicability of the common basis of description to all the supervisors.

The factor structures of various sub-groups were compared with the factor structure common to the whole. The factor structures of various sub-groups were not compared directly, since the primary objective is to prepare a shared analysis for use in further studies.

In general the factor structures of various sub-groups have been compared in order to clarify differences between sub-groups with two main aims (Heinonen 1968):

(1) to study the correlations of the variables in different sub-groups and
(2) to study differences of the factor loadings.

The second aim is of particular importance since it can be used to uncover essential changes of meaning in variables from sub-group to sub-group. Sub-groups have often been compared using the size of the loadings of rotated factors as a criterion to draw conclusions about differentiation. Heinonen examined the defects of this procedure and stated that the factor structures already have differences because separate rotations have been performed on the data from various groups.

The uniformity of factor structures might have been tested, for instance, by comparison of coefficients of congruence between the factor loadings in different analyses, by 'transformation analysis' or by 'sub-group analysis'. The coefficient of congruence gives information

about the degree of uniformity in the lists of loadings of two factors (Cattell 1966, 196). The structures to be compared in transformation analysis will be projected into the same factor space (Ahmavaara 1954 and 1963). In the sub-group analysis factor structures of the sub-groups are estimated on the basis of factor analysis common to the whole (Heinonen 1968).

The chief reason for not doing the sub-group analysis was that I wanted to do a factor analysis separately as well as in the entire material and each sub-group. This made possible a more independent study of the stability of concepts in various groups than in the situation where all the information dealing with sub-groups comes from the same analysis.

In this study the factor structures of the four sub-groups were compared with the factor structure of the entire material using coefficients of congruence, although the procedure is more approximate than, for example, the use of transformation analysis. Nevertheless, it is probably sufficient for this study, since the factor structure of the shared analysis forms a common criterion for the factor structures of the sub-group analyses.

The weak point of coefficients of congruence is that they can give unity for patterns of identical shape, but on different levels. Therefore, the use of coefficients of congruence was complemented by comparison with the levels of factor loadings of corresponding factors.

4. Results

4.1. Factor Analysis of the Whole Material

For the factor analysis of the whole material a resulting alternative of five factors was chosen on the basis of the consideration described previously. The principal axis solution is given in Appendix 4a. The varimax rotated factor matrix and the interfactor coefficients of congruence are in Table 2.

The coefficients of congruence between factors are relatively high. This means that the lists of factor loadings (the shape of patterns) in the five factors are fairly similar, although the use of orthogonal rotation results in principal uncorrelated factors. Coefficients of congruence and correlations between factors measure, however, two different qualities of the factor structure. Uncorrelated factors give some relatively independent characteristics to describe a certain behaviour. The coefficients of congruence between the factors of the same analysis could be seen, in my opinion, as indicators of how the different characteristics are linked together to describe this particular behaviour. Factor III is not very strongly connected with the other factors.

The following lists give the variables grouped with each rotated factor in order of the sizes of the absolute values of the loadings. Variables are named by the characteristics in Table 1. Only factor loadings whose absolute values are .40 or more have been included in the interpretation, because this seemed to give a relatively accurate interpretation.

TABLE 2. Varimax Rotated Factor Matrix and Interfactor Coefficients of Congruence (Entire Material)

Variable	I	II	III	IV	V	Communality
01	60	-11	-13	-10	-46	61
02	32	-09	08	-25	-58	52
03	03	25	-45	18	21	34
04	37	-51	00	-16	-24	48
05	-77	13	10	11	10	64
06	39	-27	-22	-19	-28	39
07	13	-02	-70	01	-10	52
08	19	-67	10	-29	-17	60
09	-41	-15	61	-02	03	57
10	73	-17	-10	-14	-20	64
11	43	-34	-09	-20	-50	60
12	09	54	-13	20	-06	36
13	74	-05	-19	-17	-21	66
14	-44	04	08	15	04	23
15	36	-52	01	-35	-27	60
16	-14	22	-09	67	13	55
17	15	-31	07	-60	-14	51
18	-38	27	08	53	13	51
19	28	36	22	-39	-15	43
Eigen-values	3.4	2.0	1.3	1.8	1.3	9.8
%	18.0	10.5	6.8	9.5	6.8	51.6
II	-50					
III	-37	-19				
IV	-56	77	-12			
V	-75	61	10	62		

FACTOR I: Supervisor's General Attitudes to Student Teachers (authoritarian - non-authoritarian)

Loading	Variable	
-.77	05	Supervisor's personal approach to teaching inflexible - flexible
.74	13	Supervisor's involvement in student teacher's decisions encouraging independent decisions - restrictive
.73	10	Supervisor's reaction to student teacher's opinions tolerant - intolerant
.60	01	Supervisor's general attitude to student teachers non-authoritarian - authoritarian
-.44	14	Supervisor's view of teacher's tasks narrow-ranging - wide-ranging
.43	11	Supervisor's agreeableness sympathetic - unsympathetic
-.41	09	Supervisor's personal style of working fastidious - careless
(.39)	06	Supervisor's general tone of evaluation after practice lessons positive - negative

Factor I is a general factor. The greatest weight is given to the variables that describe the ways in which the supervisors regulate the atmosphere of student teaching and the relationships between the supervisor and the student teachers.

FACTOR II: Supervisor's Role Stability
(stable - unstable)

Loading	Variable	
-.67	08	Clarity of instructions given to student teachers clear - unclear
.54	12	Supervisor's certainty in making comments unsure - confident
-.52	15	Supervisor's relevance in evaluating teaching practice relevant - irrelevant
-.51	04	Supervisor's impartiality of evaluation impartial - biased

The variables with the strongest effect on the interpretation of this factor deal with the stability and the state of organisation of the role of the supervisors.

FACTOR III: Supervisor's Style of Working
(easy-going - serious)

Loading	Variable	
-.70	07	Supervisor's requirements for lesson plans general - detailed
.61	09	Supervisor's personal style of working fastidious - careless
-.45	03	Supervisor's attitude to his work easy-going - serious

The supervisor's relation to his own work is here defined on the basis of a relatively narrow moded of observation. It would be more interesting to investigate this question by means of the objectives the supervisor sets up for his work, and not only by styles of working. However, the research method used does not allow for this.

FACTOR IV: Effect of Supervision on Student Teachers
(positive - negative)

Loading	Variable	
.67	16	Effect of supervision on student's style of teaching negative - positive
-.60	17	Effect of supervision on self-knowledge of student teacher positive - negative
.53	18	Effect of supervision on self-confidence of student teacher negative - positive
(-.39)	19	Effect of supervision on ability to vary teaching methods positive - negative

The interpretation of this factor is quite clear. All the variables included are related to the effects of the supervisor-student relationship on the development of the teacher's professional role, and on the student teacher's self-image as a teacher.

FACTOR V: Supervisor's Attitudes to Individual Student Teachers
(sympathetic - unsympathetic)

Loading	Variable	
-.58	02	Supervisor's attitude to individual student teachers concerned - indifferent
-.50	11	Supervisor's agreeableness sympathetic - unsympathetic
-.46	01	Supervisor's general attitude to student teachers non-authoritarian - authoritarian

This factor gives information similar to factor I. Factor I is, however, more concerned with the supervisor's attitude to student teachers in general, while factor V concerns the nature of interaction between supervisors and individual student teachers.

4.2. Naming of Corresponding Factors

The shared factor analysis brought out some quite clearly interpretable factors. Since the sub-groups had assessed different supervisors the shared analysis presumably does not necessarily fully correspond to the grouping of variables in various sub-groups. Therefore factor analyses of separate sub-groups were considered worthwhile, to control the factor structure of the shared analysis at the sub-group level. Unrotated factor matrices and varimax rotated factor matrices of the four research groups are in Appendices 4 b-e and 5 b-e.

For sub-group factor analyses the following numbers of factors were chosen:

College A, women	4 factors
College A, men	5 factors
College B, women	5 factors
College B, men	4 factors

Coefficients of congruence between the shared factors and sub-group factors were calculated to name correspondig factors in the shared analysis. Coefficients of congruence are shown in Appendix 6. Table 3 gives the corresponding factors.

TABLE 3. Corresponding Factors (1), and Coefficients of Congruence between shared Factors and the Corresponding Sub-Group Factors (2)

Shared Analysis	College A women		College A men		College B women		College B men	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
F I	f3	98	f2	99	f1	99	f1	94
F II	f1	80	f4	92	f2	96	f1	72
F III	f2	98	f3	91	f4	94	f2	88
F IV	f4	98	f1	97	f3	96	f3	97
F V	f1	86	f5	91	f5	88	f4	90

With College A-men and College B-women, the naming of corresponding factors was already easy because the number of factors in both sub-groups corresponded with the number of factors in the shared analysis.

Factor II of the shared analysis (supervisor's role stability) does not easily find its corresponding factor among the factors of College A-women and College B-men. Therefore, the level of factor loadings had to be studied, together with the comparison of the coefficients of congruence, to name the corresponding factors. For the College A-women factor I is by nature a general factor, combining the information in factors II and V (supervisor's attitudes to individual student teachers) of the shared analysis. In college B-men sub-group factor 1 is also a general factor combining the information of factors I (supervisor's general attitude to student-teachers) and II of the shared analysis.

Coefficients of congruence between corresponding factors were high. This indicates that the lists of loadings of the corresponding factors were very uniform. The fact that the relevant number of factors in two sub-groups was smaller than in the shared analysis may, however, indicate that the research variables were not used conceptually in a completely identical way in all the groups. This may be partly due to separate rotations in various analyses and partly to the small number of the objects, i.e. the supervisors, in the various sub-groups. Shared analysis evidently gives a more stable structure of the behaviou of the supervisors than do sub-group analyses. The structure of the shared factor analysis corresponds most closely to the factor structures of sub-groups' College A-men and College B-women. Factors III and IV of the shared analysis are clear already in all sub-group analyses.

4.3. Corresponding Factors and Level of the Factor Loadings

The interpretational and conceptual uniformity of the corresponding factors was tested by comparing the factor loadings.

In the following, the level of the loadings of corresponding factors will be discussed separately under each factor of the shared analysis. When unusually high extra loadings ($\geq$ .40) occur in some variables in a sub-group it will be mentioned. Factor 1 for College A-women combines information included in factors II and V of the shared analysis. Similarly, factor 1 of College B-men represents factors I and II of the shared analysis. Factor loadings of corresponding factors are given in Appendix 7.

Supervisor's general attitude to student teachers (Factor I): The factor loadings show that the interpretation of factor I is very uniform with the interpretation of the corresponding sub-group factors. The supervisor's attitudes to individual student teachers (variable 02) in sub-groups College A-men and College B-women and effect of supervision on self-confidence of student teachers (18) in College B-women have some extra influence in interpretation of the sub-groups factors.

Supervisor's role stability (Factor II): The interpretation of factor II is not as clear as that of factor I mainly because of the combined factors both in College A-women and College B-men. The supervisor's certainty in making comments (12) has very little weight in both of these groups. With the College B-men, variable 12 is more strongly connected with factor III. For College A-men the supervisor's impartiality of evaluation (04) is most closely connected with factor IV. The supervisor's personal approach to teaching (05) with the College A-women, and effect of supervision on ability to vary teaching methods (19) with the College

B-men, have some extra influence in interpretation.

Supervisor's style of working (Factor III): The uniformity of the loadings in factor III and in the corresponding factors is quite distinct. With College B-women the supervisor's attitude to his own work (03) is more clearly connected with factor IV. With College B-men the clarity of instructions given to student teachers (08) and the supervisor's certainty in making comments (12) are joined here as additional variables.

Effect of supervision on student teachers (Factor IV): The loadings of factor IV of the shared analysis correspond fairly accurately with the level of the loadings of the factors of the sub-groups. In addition, each sub-group has an extra loading on one variable:

College A-women; supervisor's relevance in evaluating teaching practice (15)

College A-men; supervisor's impartiality of evaluation (04)

College B-women; supervisor's attitude to his own work (03)

College B-men; supervisor's attitudes to individual student teachers (02)

Supervisor's attitudes to individual student teachers (Factor V): Factor V of the shared analysis and the corresponding factors got rather similar loadings. Factor 5 of College B-women has two fairly low loadings, but interpretation of the factor corresponds to that of factor V. Factor 1 of College A-women is combined with factors II and V of the shared analysis. The supervisor's general tone of evaluation after practice lessons (06) attains some extra weight with this sub-group.

5. Discussion

Quite distinct corresponding factors can be named for sub-group factors from among the factors of the shared analysis to describe the behaviour of supervisors. This reinforced the earlier assumption that the concepts and their explanations, used in this research, are anchored to an approximately similar frame of reference common to all student teaching situations. Therefore a uniform use of concepts was relatively likely in student teachers' assessments of the behaviour of supervisors.

Shared analysis gives a rather more differentiated factor structure than analyses of two sub-groups, College A-women and College B-men. The controls seemed to confirm that the research could be continued on the basis of the shared factor analysis.

The five factors given by the shared analysis can be seen as basic aspects of supervisor-student interactions. The first factor concerns the ways in which the supervisors regulate the general student teaching atmosphere: a dimension between two attributes, authoritarian and non-authoritarian, was found to describe the behaviour of supervisors. However, there are various ways of behaving either in an authoritarian or in a non-authoritarian way. For instance, authoritarian behaviour can differ according to whether the role of a supervisor is stable or unstable (second factor), his style of working easy-going or serious (third factor), the effect of his supervision positive or negative (fourth factor) and his attitudes to individual student teachers sympathetic or unsympathetic (fifth factor). The qualities of authoritarian behaviour can thus be defined by various combinations of the attributes of the five factors. Because the student teachers have their individual expectations of the behaviour of supervisors it is difficult here to name any particular combination or character-

istics of supervisory behaviour which would be best for all the student teachers. Different student teachers value different characteristics of the behaviour of the supervisors.

Studies of teacher's classroom behaviour by Ryans (1960) have already been referred to. The interpretation of factors of the behaviour of supervisors is compared with the interpretation of the three factor patterns of Ryans: The first pattern (X_o) is quite near to the supervisor's general attitudes to student teachers (factor I) and the supervisor's attitudes to individual student teachers (factor V). The second pattern (Y_o) is similar to the interpretation of factor II, which describes the stability of the supervisor's professional role, and is related to the supervisor's style of working (factor III). The third pattern (Z_o) is characterized fairly well by the effect of supervision on student teachers (factor IV).

Comparison of the interpretation of the factors in two different studies is not very accurate, especially when the research methods used are not the same. Nevertheless, it seems likely that the classroom behaviour of school teachers and the behaviour of supervisors in school practice are quite similar or are based on quite similar aspects of behaviour.

The effects of different kinds of supervisory behaviour, defined by various combinations of the characteristics of the five factors, on how student teachers have experienced their supervision will be studied in the following chapters. Chapter II deals with general problems in interpreting behaviour. Chapters III and IV are focused on further analyses of the concepts of the behaviour of supervisors derived from chapter I.

CHAPTER II

A METHOD FOR INTERPRETING BEHAVIOUR

1. Introduction

In the previous chapter factor analysis of the assessments by student teachers of the behaviour of their supervisors gave five factors. The definition of 'behaviour' is operational. The study began with a number of aspects which I assumed could characterize the behaviour of supervisors in interaction with student teachers in teaching practice. A research method (a questionnaire) was developed to study this behaviour. Student teachers used the questionnaire to assess their supervisors, and factor analyses were used to clarify the structure of the behaviour. The aim was by interpreting the factors to define the concepts that describe the supervisory behaviour in general.

If we as empiricists accept these operational ways of studying behaviour, we should also remember the justifiable criticism directed against empirical interpretations of behaviour (e.g. Tuomela 1973). If the behaviour is interpreted only by the concepts coming from the empirical analyses, we can only assume that the concepts used describe the behaviour we intended to study. The interpretation of a behaviour is always more or less partial.

I am not going to analyze the social-psychological-biological nature of behaviour in this chapter, but concentrate mainly on analyzing the use of concepts drawn from empirical studies for interpretation of a given behaviour.

In Chapter I factor analyses gave the aspects which describe the behaviour of supervisors assessed by student teachers. This does not, however, say how these concepts describe the behaviour of supervisors. What is needed is information about the relationships between the concepts used to describe the behaviour in question to achieve a better basis for interpretations. Before analyzing further the behaviour of supervisors, some general points about empirical studies of behaviour and about the interpretation of behaviour based on these studies will be made. The analyses will be considered in terms of factor analysis, when 'behaviour' is defined operationally by the concepts derived from the interpretations of the factors.

2. A Strategy for Studying Behaviour

In psychological studies a popular way has been to describe behaviour in terms of nomothetic and idiographic points of view (cf. Chaplin & Krawieg 1968). Nomothetic psychology tries to find general laws and principles that govern mental and behavioural processes. This approach is likely to ignore the individual. When investigating behaviour and trying to formulate general laws, one of the main aims has been to minimize the effects of individual differences among research subjects. On the other hand the individual is paramount in idiographic psychology. This approach emphasizes that each person is unique and that his behaviour must be understood in terms of his own set of laws.

This study is a compromise between nomothetic and idiographic points of view. The idea of general laws and principles to describe behaviour will be accepted, but the general laws should also be of use in describing individual behaviour.

Each person behaves and reacts in a highly individual manner. Thus a given sort of behaviour is likely to be brought about by different mechanisms in different individuals. Most statistical methods are based on the assumption that the estimates of the given behaviour are normally distributed within a sample of individuals. In describing behaviour statistically we are likely to assume that

(1) the 'structure' of behaviour is in principle the same in each individual, and that
(2) only the strength and weight of different aspects of the behaviour differ between individuals.

The assumptions above lead to the conclusion that the concepts which describe a certain behaviour are common to all individuals. It follows that the concepts of the behaviour should also be combined with each other in some general way, while still allowing individuals to behave individually.

When investigating a particular behaviour we should first know the concepts which describe the behaviour and the relationships between the concepts. Behaviour can be interpreted if the relationships between the concepts are known.

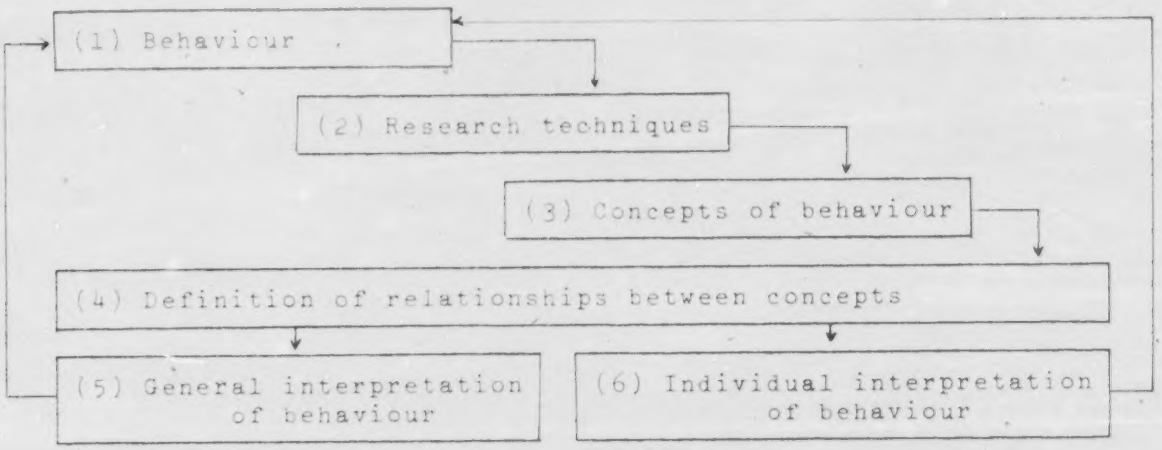
The principles I am going to use are:

1) Behaviour can be described by concepts
2) Relationships between concepts can be found
3) The relations of concepts of a behaviour are common to all individuals, but
4) The behaviour of different individuals described by the concepts may be different
5) The concepts of a behaviour should be studied where they exist most clearly and strongly.

The following list gives different phases in studying behaviour:

1.	Observation of behaviour; frame of concepts, selection of the sample	- Planning
2.	Selection or development of the research-technique and its presentation to a sample of subjects	- Execution
3.	Analysis of the concepts used in the research technique	- Statistical methods
4.	Study of relationships between the concepts	- A method of studying relationships
5.	Interpretation of behaviour (in general)	- Interpretation I
6.	Interpretation of behaviour (in individuals)	- Interpretation II

The phases above fit into the following schema:


(1) Behaviour
(2) Research techniques
(3) Concepts of behaviour
(4) Definition of relationships between concepts
(5) General interpretation of behaviour
(6) Individual interpretation of behaviour

Although the relationships between the concepts of a type of behaviour are general in nature and common to most of the individuals, it does not necessarily follow that the behaviour of each individual can be equally well interpreted by these relationships. The relationships between concepts can be considered logical, but the behaviour of an individual can be illogical or contradictory. If the behaviour of an

individual cannot be interpreted by the general relationships of the concepts the reasons may lie outside these concepts. For instance, if we study attitudes, some psychodynamic needs of an individual may explain the contradictory attitudes.

In addition, the concepts may not cover the behaviour sufficiently or some of the individuals may not understand the concepts used in the study in the expected way.

3. A Method for Studying Relationships between Concepts of Behaviour

Phases 1, 2 and 3 in the schema for studying behaviour are traditional. Let us assume that a given behaviour is studied by semantic differential technique in a sample of subjects. The primary material is analysed by factor analysis. Interpretation of the factors (F) gives a group of concepts (C) to describe the content of factors. These concepts describe primarily the factors and hypothetically the behaviour which is the object of the study.

Phase 4 consists of a study of the relationships between the concepts. When looking for the relations between the concepts it is reasonable, even in a theoretical presentation, to deal with a limited number of concepts. Let us assume that in factor analysis of semantic differential data three factors (F1, F2, F3) are found. The factors are interpreted by three concepts (C1, C2, C3). As the concepts are formed by the semantic differential technique, they are bipolar. The two poles of a concept are here called attributes. Each concept then has two attributes ('a' and 'b') and a dimension between these attributes. In this example there are three factors, three concepts and the concepts have 2 x 3 attributes (C1a, C1b ... C3a, C3b).

For each factor individual factor scores are estimated. Factor scores can also be regarded as estimates of the corresponding concept. Using factor scores it is possible to select a group of subjects who are located closest to attribute 'a' (high factor scores) and a group of subjects, who are located closest to attribute 'b' (low factor scores) These groups represent primarily the subjects included in the groups, but they also show the attributes which are used as a basis for grouping. Subgroups can be named by the symbols of the attributes (C1a, C1b ... C3a, C3b). The following subgroups are produced by three factors and three concepts (six attributes):

	concept/factor		
subgroups	C1/F1	C2/F2	C3/F3
I	1a	2a	3a
II	1b	2b	3b

The same subject may come into several subgroups (at most three). The number of subjects in each group depends on such things as the stability of the estimates of the concepts. In this example I have not given any exact number of subjects for the subgroups.

Principle 5 above states that it is best to study concepts where they are clearest and strongest. Here the qualities of the concepts are seen most clearly and strongly in subgroups I and II. Next I will study how the behaviour of subjects in subgroups I and II can be described by the attributes of the given behaviour. Let us assume that the behaviour of subjects in subgroup 1a cannot be characterized by attributes 'a' or 'b' of concept C2 or by attributes of C3. This means that among the six attributes of a given behaviour there is only one attribute, C1a, which characterizes the subjects of this subgroup uniformly. In some other subgroup the behaviour of the

subjects can be uniformly described by attributes 'a' or 'b' of all three concepts.

Let us assume that in this example the behaviour of six subgroups can be described by six attributes as shown in Matrix 1.

In the matrix horizontal lines give the attributes by which the behaviour of subjects in each subgroup can be described. Simultaneously, they show the attributes by which each attribute of the behaviour can be described. Vertical lines allow inspection only within attributes.

MATRIX 1. Behaviour of subgroups I/C1a, C2a, C3a and subgroups II/C1b, C2b, C3b described by attributes C1a, C1b ... C3a, C3b

factors	concepts	sub-groups	F1		F2		F3		factors
			C1		C2		C3		concepts
			C1a	C1b	C2a	C2b	C3a	C3b	attributes
F1	C1	I/C1a	C1a						
		II/C1b		C1b			C3a		
F2	C2	I/C2a	(C1a)		C2a			(C3b)	
		II/C2b	C1a			C2b			
F3	C3	I/C3a		C1b		(C2b)	C3a		
		II/C3b	C1a					C3b	

Attributes in brackets describe relatively clearly, but not very strongly, the behaviour of the subjects in the subgroup in question.

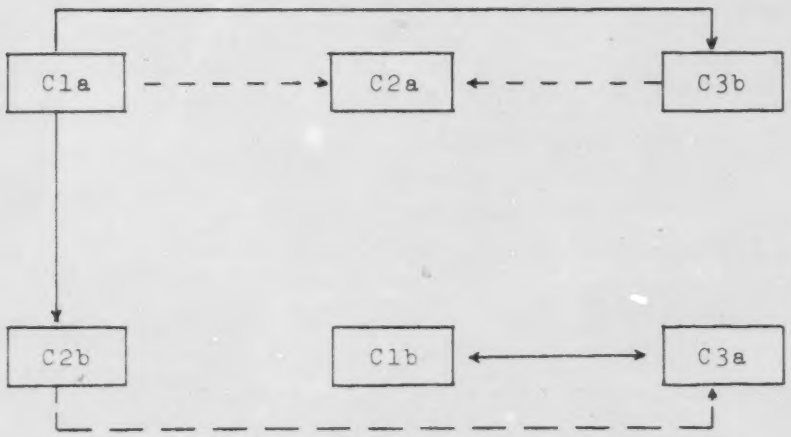
If the horizontal and vertical lines in the matrix are studied only as relations of attributes, then

(1) horizontal lines show the attributes that characterize an attribute, and

(2) vertical lines show the attributes that are characterized by an attribute.

In Matrix 1 an attribute is related on the horizontal line only to one 'corresponding' attribute of another concept. It is possible, however, to have two different types of behaviour; where the attribute is combined with attribute 'a' or with attribute 'b' of another concept.

Relationships between the attributes in Matrix 1 may be expressed also in the form of a model given below.



MODEL 1. Relationships between attributes C1a, C1b ... C3a, C3b

In the figure arrows show the direction of explanation between two attributes. The arrow points to the attribute that is characterized by the other attribute in question. This gives the direction of explanation. Mutual explanation can be regarded as a feed ck system between two attributes. Dotted lines show relatively clear, but not very strong, effects in explanation.

This shows the preliminary phase of studies of relationships between concepts and the attributes of concepts. Relationships will now be analyzed further.

4. Some Possible Combinations of Attributes

In Model 1 none of the attributes is left outside. The model seems to be relatively solid. However, this might not always be so in practice. This section deals with some exceptions.

Let us assume that, as before, factor analysis of semantic differential data gives three factors (F1, F2, F3). Factors are interpreted by three concepts (C1, C2, C3). Altogether there are three attributes 'a' and three attributes 'b' to describe the concepts and behaviour in question.

Matrix 2 and Model 2 give some possible combinations of attributes which will be discussed in detail.

Example 1: Attributes 'a' and 'b' of a concept can be combined with each other as in Matrix 2.1. and Model 2.1. In this case there are two independent groups of subjects, who behave differently according to the attributes. At the same time there are two groups of attributes which are completely separate from each other.

If each of the six subgroups is homogeneous for the attributes characterizing the group, the mean of the factor scores in a group gives the justified position of the group on the scale of factor scores of the whole population. As earlier, attribute 'a' is linked to high factor scores and attribute 'b' to low factor scores.

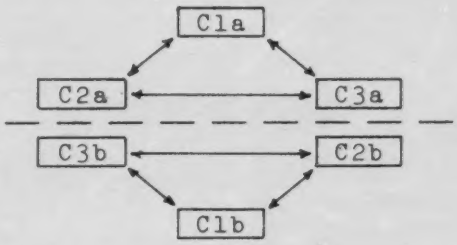
The following figure gives potential group means of factor scores for the six subgroups in three factors by profiles. 'Neutral' refers to medium level of factor scores of a factor, and means 'neutrality' according to attributes 'a' and 'b'. Neutral levels of the concepts have the symbol 'n'. In the figure subgroups 'a' and 'b' of a concept can be identified under the factor and concept in question.

MATRIX 2 and MODEL 2. Some Examples of the Relationships Between Attributes C1a, C1b ... C3a, C3b

MATRIX 2.1.

	C1a	C1b	C2a	C2b	C3a	C3b
C1a	C1a		C2a		C3a	
C1b		C1b		C2b		C3b
C2a	C1a		C2a		C3a	
C2b		C1b		C2b		C3b
C3a	C1a		C2a		C3a	
C3b		C1b		C2b		C3b

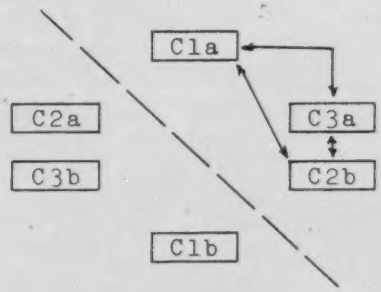
MODEL 2.1.



MATRIX 2.2.

	C1a	C1b	C2a	C2b	C3a	C3b
C1a	C1a			C2b	C3a	
C1b		C1b				
C2a			C2a			
C2b	C1a			C2b	C3a	
C3a	C1a			C2b	C3a	
C3b						C3b

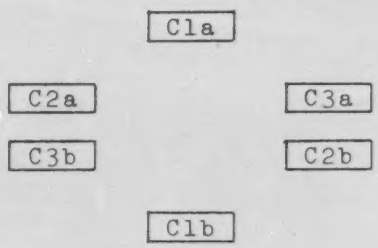
MODEL 2.2.



MATRIX 2.3.

	C1a	C1b	C2a	C2b	C3a	C3b
C1a	C1a					
C1b		C1b				
C2a			C2a			
C2b				C2b		
C3a					C3a	
C3b						C3b

MODEL 2.3.



Factors	F1			F2			F3		
Concepts	C1	(C2)	(C3)	(C1)	C2	(C3)	(C1)	(C2)	C3
'a'	1a	2a	3a	1a	2a	3a	1a	2a	3a
'n'	1n	2n	3n	1n	2n	3n	1n	2n	3n
'b'	1b	2b	3b	1b	2b	3b	1b	2b	3b

The profiles of subgroups C1a, C2a and C3a are drawn by continuous lines. Profiles of subgroups C1b, C2b and C3b by dotted lines.

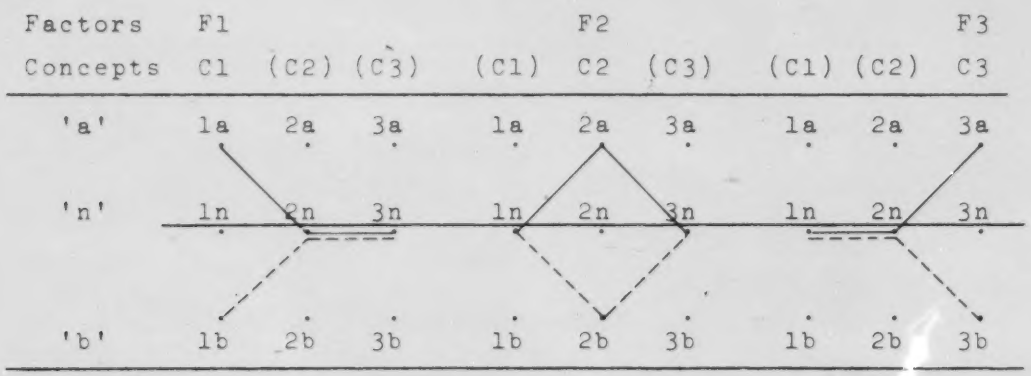
If a subgroup has high factor scores in one factor, the factor scores in the other two are also high. If a group has low scores in one factor the scores in other factors are also low. This may be the case, for instance, if combinations of intelligence factors are studied, and if subjects in subgroups 'a' are generally talented and subjects in subgroups 'b' untalented. In other words, in the concepts studied the basic differences between groups 'a' and 'b' are considerable. In this example we cannot say anything about the behaviour of subjects at the medium level of the concepts. because there is no 'communication' between the two poles of concepts. The question of neutral levels of concepts is discussed also in other examples.

Example 2: In Matrix 2.2. and Model 2.2. only half the attributes have found relationships with other attributes. Means of factor scores within groups 'a' and 'b' in each factor are given in the following six profiles.

Factors	F1			F2			F3		
Concepts	C1	(C2)	(C3)	(C1)	C2	(C3)	(C1)	(C2)	C3
'a'	1a	2a	3a	1a	2a	3a	1a	2a	3a
'n'	1n	2n	3n	1n	2n	3n	1n	2n	3n
'b'	1b	2b	3b	1b	2b	3b	1b	2b	3b

The profiles show that attributes 1b, 2a and 3b are connected with other attributes only by the neutral levels of concepts. If the relationships between attributes are defined only by attributes 'a' and 'b' of the concepts it does not give enough information about the relations. The model of relationships between attributes must be modified so that it also takes into account the neutral levels of concepts. This will be discussed later in this chapter.

Example 3: In Matrix 2.3. and in Model 2.3. there are no direct relations between attributes 'a' and 'b'. It seems likely that the behaviour of the subjects in each subgroup is very different compared with that of other groups. The following profiles give, however, some extra information about possible relationships between the attributes.



This example also emphasizes the importance of neutral levels in understanding how the attributes are combined with each other to explain the behaviour.

Example 4: It is also possible that factor analysis may not produce any factor that could reasonably be interpreted. In this case we have not got any concepts to describe the behaviour we intended to study.

In conclusion, the relationships between attributes cannot be sufficiently studied only by attributes 'a' and 'b' of the concepts of a behaviour. The neutral levels of concepts, 'n', should also be considered.

5. Relationships between the Attributes of Behaviour

Earlier in paragraph 2 the relationships were studied only by attributes 'a' and 'b'. Now the neutral levels of concepts, attributes 'n', are included in analyses. A practical solution for defining limits by factor scores for these three attribute categories is given in chapter III. This also gives and discusses in detail a procedure for studying the relationships between attributes.

Relationships between attributes in Matrix 1 and Model 1 will be supplemented by attributes 'n' in various concepts of behaviour. There are again three concepts and now three subgroups of subjects for each concept to represent attributes 'a', 'n' and 'b'. The proposed relationships between the attributes are given in Matrix 3.

In the figure arrows show the direction of explanation between two attributes. The arrow points to the attribute that is characterized by the other attribute in question. This gives the direction of explanation. Mutual explanation can be interpreted as a feed-back system between the attributes. Dotted lines show relatively clear, but not very strong, effects in explanation.

6. Relationships between Concepts and Interpretation of Behaviour

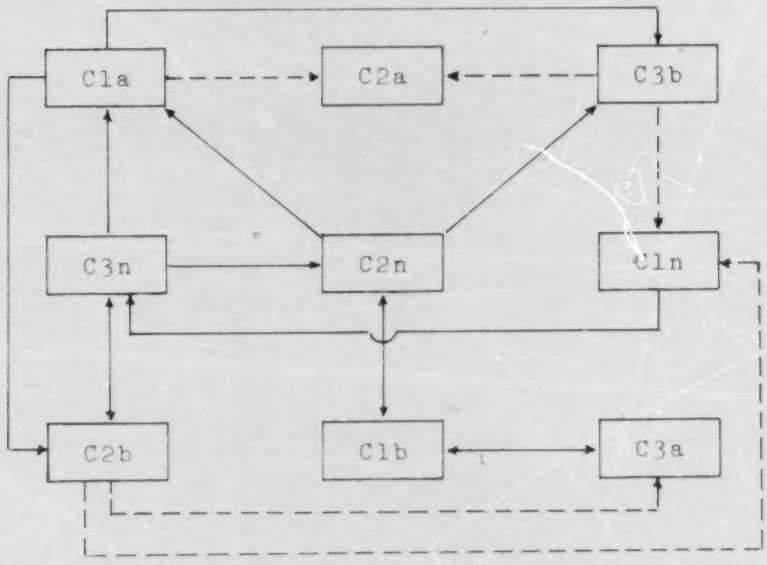
The schema for studying behaviour at the beginning of this chapter implies that after the relationships between concepts of a behaviour are known the behaviour can be interpreted. This should be done in two phases. Phase I requires the general interpretation of the behaviour and phase II the interpretation of behaviour in individuals.

MATRIX 3. Behaviour of subgroups I/C1a, C2a, C3a, II/C1b, C2b, C3b and III/C1n, C2n, C3n described by attributes C1a, C1b, C1n ... C3a, C3b, C3n

factors	concepts	sub-groups	F1			F2			F3			factors
			C1			C2			C3			concepts
			C1a	C1b	C1n	C2a	C2b	C2n	C3a	C3b	C3n	attributes
F1	C1	I/C1a	C1a					C2n			C3n	
		II/C1b		C1b				C2n	C3a			
		III/C1n			C1n		(C2b)			(C3b)		
F2	C2	I/C2a	(C1a)			C2a				(C3b)		
		II/C2b	C1a				C2b				C3n	
		III/C2n		C1b				C2n			C3n	
F3	C3	I/C3a		C1b			(C2b)		C3a			
		II/C3b	C1a					C2n		C3b		
		III/C3n			C1n		C2b				C3n	

Attributes in brackets describe relatively clearly, but not very strongly, the behaviour of the subjects in the subgroup in question.

Relationships between attributes in Matrix 3 are also given in Model 3.



MODEL 3. Relationships between attributes C1a, C1b, C1n ... C3a, C3b, C3n

First I shall discuss how the number of concepts of a behaviour is related to the total number of possible combinations of three attributes. Attributes 'a', 'n' and 'b' of the same concept cannot belong to the same combination of attributes. If the number of concepts is N, and each concept has three attributes, the number of possible combinations for one attribute with the attributes of the other concepts is 3^{N-1}. The total number of possible combinations within N concepts with three attributes is then $3 \times 3^{N-1} = 3^{N}$.

Table 4 shows the total number of possible combinations of attributes as a function of the number of concepts, and the number of the possible combinations of each attribute with other attributes also as a function of the number of concepts. The number of concepts varies in the table from one to ten.

TABLE 4. The number of possible combinations of attributes (C1a, C1n, C1b ... CNa, CNn, CNb) as a function of the number of concepts (N)

N	3^N	3^{N-1}
1*	3	1
2	9	3
3	27	9
4	81	27
5	243	81
6	729	243
7	2 187	729
8	6 561	2 187
9	19 683	6 561
10	59 049	19 683

N = number of concepts

3^N = total number of combinations of attributes

3^{N-1} = number of combinations of one attribute

* in the case of one concept there are three attributes that cannot be combined with each other: in every 'combination' there is then only one attribute.

In the cases in Table 4 some of the combinations of attributes fit into a model of relationships between the attributes in question, the others cannot be described by it. Section 2 referred to individual exceptions, where the behaviour of an individual does not necessarily follow general rules. For instance, in the case of ten concepts (thirty attributes) it is possible to find one combinat on of attributes out of almost sixty thousand possibilities to describe the behaviour of an individual.

Table 4 demonstrates the difficulty of interpreting behaviour in general. It is quite impossible to find any particular way of interpreting behaviour so that all the possible variations of behaviour are taken into consideration at the same time. In fact, a model where all relationships between attributes of behaviour are given makes it possible to describe, generally by various combinations of attributes, the most characteristic examples of a behaviour in a given frame of reference. This is what I mean by general interpretation of behaviour. Information about the relationships between the attributes of a behaviour is also used in interpretation of the behaviour of individuals.

6.1. General Interpretation of Behaviour

Matrix 3 and Model 3 give the proposed relationships between the attributes of a behaviour. Because there are three concepts and nine attributes, the attributes can be combined with each other in 27 different ways (see Table 4). The most typical combination of attributes of the behaviour are given in the horizontal lines of Matrix 3. We can study, for instance, how attribute C1a is combined with other attributes in various types of behaviour.

In Matrix 3 the first row (I/C1a) shows the attributes that are most strongly combined with attribute C1a to describe a certain type of behaviour. These attributes are C2n and C3n. Information about relationships between attributes in Matrix 3 can be used to find out how these three attributes are combined with each other.

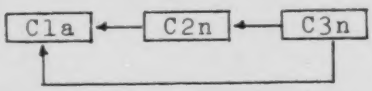
The information is given in Matrix 3.1. and in Model 3.1.

Relationships between attributes C1a, C2n and C3n:

MATRIX 3.1.

	C1a	C2n	C3n
C1a		C2n	C3n
C2n	-		C3n
C3n	-	-	

MODEL 3.1.



Attribute C1a can be regarded as the dominant aspect of the behaviour where attributes C2n and C3n are found by analyses in subgroup I/C1a. In other words, this combination of attributes describes particularly the behaviour of subjects in subgroup I/C1a, which represents attribute C1a in the analyses for defining the relationships between attributes. Matrix 3 shows however that there are three additional cases where C1a belongs to a combination of attributes, but then C1a characterizes another type of behaviour. This can be predominantly described by attribute C2a (row I/C2a), C2b (row II/C2b) or by attribute C3b (row II/C3b).

The relationships between the attributes in Matrix 3.1. and in Model 3.1. can be listed as below to clarify the interpretation of behaviour:

Attribute C1a			
results from:	C2n C3n	leads to:	-
Attribute C2n			
results from:	C3n	leads to:	C1a
Attribute C3n			
results from:	-	leads to:	C1a C2n

'Result from' refers to the attribute(s) that characterize a particular attribute and 'leads to' points out the attributes characterized by this attribute.

C1a results from C2n and C3n, but it does not lead to either of these; C1a seems to be an end-product of the process of behaviour. C3n has a direct effect on C1a and is linked to it also by C2n. The interpretation will be interesting when we know the actual content of the attributes in question.

For general interpretations of behaviour all the other rows in Matrix 3 can be analyzed as above.

6.2. Interpretation of the Behaviour of Individuals

This also concerns attribute C1a. Table 4 shows that in individual cases there are nine possible combinations of attribute C1a with the other attributes.

These combinations are given in Matrix 4.

MATRIX 4. Possible combinations of attribute C1a with the other attributes (C2a, C2b, C2n, C3a, C3b, C3n)

	F1	F2			F3			factors
	C1	C2			C3			concepts
	C1a	C2a	C2b	C2n	C3a	C3b	C3n	attributes
1.	C1a	C2a			C3a			
2.	C1a	C2a				C3b		
3.	C1a	C2a					C3n	
4.	C1a		C2b		C3a			
5.	C1a		C2b			C3b		
6.	C1a		C2b				C3n	
7.	C1a			C2n	C3a			
8.	C1a			C2n		C3b		
9.	C1a			C2n			C3n	

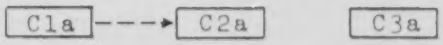
Relationships between the attributes in the nine combinations are in Model 4. In these cases there are no identical combinations. The position of attribute C1a varies considerably and the interpretation of behaviour is different in different cases. C1a may be a starting point for the behavioural process as in examples 4.2., 4.4. and 4.5. It can be a sort of regulator of the behaviour as in examples 4.3. and 4.8. C1a may be part of a feed-back system between attributes, as in example 4.6. It can also be the final result of the behavioural process as in example 4.9.

There are only two cases, examples 4.1. and 4.7., which are obviously insufficiently described by the information about relationships given in Matrix 3. The exceptional behaviour in these individuals is probably caused by reasons outside the concepts used here to describe the behaviour.

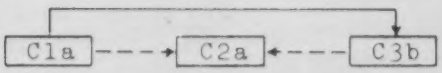
The use of relationships between attributes for interpreting behaviour allows for individual differences in the behaviour studied.

MODEL 4. Relationships between attributes in possible combinations of attribute C1a with other attributes

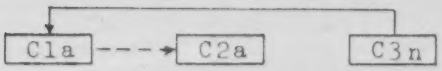
4.1.



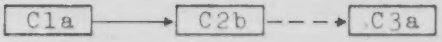
4.2.



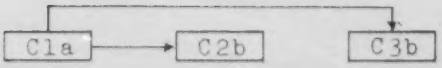
4.3.



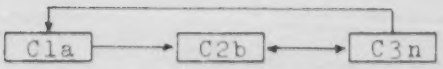
4.4.



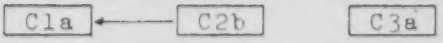
4.5.



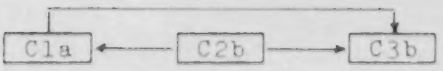
4.6.



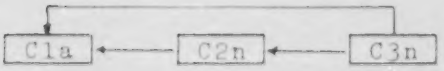
4.7.



4.8.



4.9.



7. Discussion

Analyses in this chapter are based on the assumption that a given type of behaviour cannot be explained unless the relationships between the concepts used to describe the behaviour are known. The method for interpreting behaviour used here includes interpretation using information about relationships between attributes of the concepts of a behaviour.

These analyses of behaviour are familiar to mathematical psychologists studying psychological processes and structures reviewed by Greeno (1972). A majority of the models of psychological processes such as learning, perception, decision and problem solving involve the application of probability theory. The most common stochastic processes are Markov chains. These are also applied to educational studies, for instance, to elucidate the degree of differentiation of behavioural sequences in the instructional process (Komulainen 1971 and 1973). Models of cognitive structure, such as Chomsky's (1957) linguistic theory of grammar and research of semantic information processing such as Quillian's (1968) network structure to study relationships between concepts, have also contributed to our understanding of the behavioural processes. In a semantic network Quillian used labelled arcs to represent one-way relationships between concepts and to point out the direction for explanation (see Collins and Quillian, 1972). In the present study of behaviour mutual effects between two concepts (here attributes of concepts) are taken into consideration to achieve more information about the dynamic nature of behaviour.

Various practical problems involved in definition of relationships between the attributes of behaviour are not dealt with in this chapter. These problems include the definition of the limits for the three attribute categories

of a concept by the estimates of behaviour, and procedures for taking into account the variance of the estimates when difining the relationships between attributes. These are discussed in more detail in chapter III.

A further question concerns the number of attributes of a concept: should concepts be divided into more than three attribute categories. At least at this preliminary phase, three attribute categories seem to be sufficient, since the esimates of behaviour are seldom so reliable and stable that we could completely understand what an estimate of behaviour actually measures. The three attributes of a concept are used to point out the most obvious direction for explanation of the meaning of an estimate, rather than to categorize the estimates strictly under headings of three attributes.

In studies of behaviour the validity of the concepts will directly depend on the research techniques, the sample of subjects and the statistical methods used. It can be argued, however, that the concepts themselves are related to each other in a general way. It will depend on each study how closely the level of generality is achieved. The 'behaviour' of concepts is in principle logical and uncontradictory.

The analyses of behaviour are here discussed in terms of a factor analysis of semantic differential data about behaviour. Relationships between concepts or attributes of concepts can also be studied in other kinds of studies if the estimates can be arranged according to intensity. The method allows us to investigate relationships between concepts of different studies simultaneously, if the concepts are derived from analyses with the same sample of subjects. For instance if the same subjects are tested by different psychological tests.

The proper use of the principles for studying behaviour given in this chapter depends primarily on the validity of the concepts obtained by studies of behaviour. Also, of course on how well in practice the method for interpreting behaviour can be applied to various studies. In Chapter III and Chapter IV the behaviour of supervisors as assessed by student teachers will be analyzed by this method.

CHAPTER III

STUDY OF RELATIONSHIPS BETWEEN THE CONCEPTS OF THE BEHAVIOUR OF SUPERVISORS

1. Introduction

The factor structure of the behaviour of supervisors assessed by student teachers was examined in Chapter I. Five factors were found to describe the behaviour of supervisors. The original items in the questionnaire were presented in a form similar to semantic differential. Each factor has a general interpretation (a concept[1] to describe the behaviour), and interpretation is clarified by a dimension between two adjectives (attributes of a concept of the behaviour).

Chapter II gave a method for studying behaviour by relationships between the attributes of behaviour. The method will now be applied to studies of the behaviour of supervisors. There are three phases at the beginning to work through:

(1) to define the qualities of attributes 'a', 'n' and 'b' of five concepts by the original variables included in the interpretation of factors, and to define the limits for attribute categories 'a', 'n' and 'b' by factor scores,

(2) to study and define how attributes 'a', 'n' and 'b' of each concept are combined with the attributes of the other four concepts, and

(3) to summarize the results of analyses in a matrix of relationships between the attributes

[1] 'Concept' is used to refer to the general interpretation of a factor, although in interpretation several terms are used to cover the meaning of a 'concept'.

2. Attributes of the Behaviour of Supervisors

When using attributes to describe the behaviour we should know how the attributes have been obtained and what is the actual content of them. In the following the characteristics of the behaviour of supervisors in the original variables included in interpretations of factors are listed under attributes 'a', 'n' and 'b' of each concept. Attribute 'n' is located in the middle on the dimension between 'a' and 'b', and 'neutral' means neutrality according to these two attributes. The qualities and nature of 'neutral' will be discussed also in paragraph 2. The content of various attributes is given below.

1) C1/FI: Supervisor's general attitudes to student teachers

Variables[1]		attributes[2] 1a authoritarian	1n neutral[3]	1b non-authoritarian
05	Personal approach to teaching	inflexible	-	flexible
13	Involvement in student teacher's decisions	restrictive	-	encouraging independence
10	Reaction to student teacher's opinions	intolerant	-	tolerant
01	General attitudes to student teachers	authoritarian	-	non-authoritarian
14	View of teacher's tasks	narrow-ranging	-	wide-ranging
11	Agreeableness	unsympathetic	-	sympathetic
09	Personal style of working	fastidious	-	careless
06	General tone of evaluation	negative	-	positive

[1] refers to the summarized characteristics in Table 1, p. 11.
[2] attribute 'a' is related to high factor scores
" 'n' is related to medium factor scores
" 'b' is related to low factor scores
[3] 1n means 'neutrality' according to attributes 'authoritarian' and 'non-authoritarian'.

2) C2/FII: Supervisor's role stability

Variables		attributes: stable 2a	neutral 2n*	unstable 2b
08	Clarity of instructions given to student teachers	clear	-	unclear
12	Certainty in making comments	confident	-	unsure
15	Relevance in evaluating teaching practice	relevant	-	irrelevant
04	Impartiality of evaluation	impartial	-	biassed

*2n = neutral role stability

3) C3/FIII: Supervisor's style of working

Variables		attributes: easy-going 3a	neutral 3n*	serious 3b
07	Requirements for lesson plans	general	-	detailed
09	Personal style of working	careless	-	fastidious
03	Attitude to his own work	easy-going	-	serious

*3n means 'neutrality' according to attributes 'easy-going' and 'serious'

4) C4/FIV: Effect of supervision

Variables		attributes: positive 4a	neutral* 4n	negative 4b
16	Effect on student's style of teaching	positive	-	negative
17	Effect on self-knowledge of student teacher	positive	-	negative
18	Effect on self-confidence of student teacher	positive	-	negative
19	Effect on ability to vary teaching methods	positive	-	negative

*'neutral' effect means neutrality according to 'positive' and 'negative' effect of supervision

5) C5/FV: Supervisor's attitudes to individual student teachers

Variables		attributes: sympathetic 5a	neutral 5n*	unsympathetic 5b
02	Attitudes to individual student teachers	concerned	-	indifferent
11	Agreeableness	sympathetic	-	unsympathetic
01	General attitudes to student teachers	non-authoritarian	-	authoritarian

*5n indicates 'neutrality' according to attributes' sympathetic' and 'unsympathetic'

As seen above each attribute is a common title for a combination of characteristics of the behaviour of supervisors. When dealing with attributes, especially in interpretations of behaviour, it will be necessary to refer to the original characteristics to reach a better understanding of the content of the attributes. The meaning of the attributes will also be clarified in Chapter IV by the analyses of different kinds of supervisory behaviour. An attribute can acquire a special meaning depending on its relationships with the other attributes. For instance, 'authoritarian' attitudes have a different meaning when they are related to stable role behaviour from when 'authoritarian' attitudes are part of an unstable role.

The nature of attributes 'neutral' is not yet clear above. The meaning of 'neutral' will also be further clarified, when we know its combinations with other attributes.

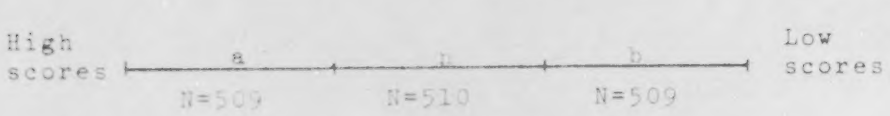
3. Definition of the Attribute Categories by Factor Scores

In Chapter II the general principles for studying relationships between attributes were discussed without producing any concrete ways of defining the limits of attribute categories 'a', 'n' and 'b'. In the present study I will give a practical solution, which is based on the assumption that an individual estimate of the behaviour of a supervisor should have the same probability of belonging to one of the three attribute categories of a concept. Medians and quartile limits of estimates of behaviour are used here to define and specify the limits. This will now be discussed in more detail.

Factor analysis was performed by student teachers' assessments of their supervisors. Altogether 1528 individual supervisor-student relationships were included in the analysis. For each of these relationships factor scores are estimated by the regression method (see Mårdberg 1969, 80) and the factor scores are standardized so that the mean of the estimates in a factor is 500 and standard deviation 100.

Factor scores of a factor can be put in order according to size of estimates. High scores then represent attribute 'a' on the dimension 'a' -('n')- 'b', scores in the middle attribute 'n' and low scores attribute 'b'. In a factor a particular estimate of the behaviour of a supervisor should have the same probability of belonging to one of the attribute categories 'a', 'n' or 'b'. Thus the number of estimates in each category should be 1/3 of the total number of estimates. In this study 1528 factor scores of a factor are divided into attribute categories as follows:

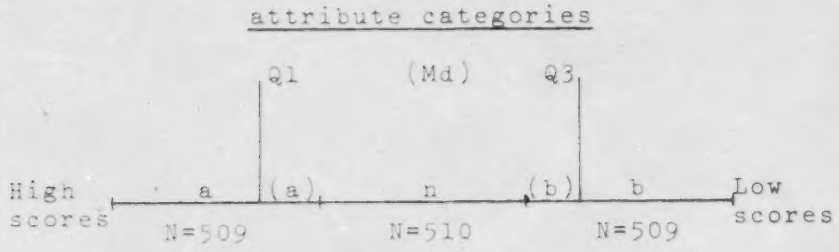
attribute categories



(N=number of estimates)

It is relatively likely that the high factor scores actually indicate the qualities of attribute 'a' and the low scores the qualities of attribute 'b'. The nature of factor scores in category 'n' is not so clear. 'Neutral' scores can be seen primarily as indicators of neutrality according to attributes 'a' and 'b', but they can also include qualities of both of these. Then an estimate of behaviour in category 'n' is a compromise between 'a' and 'b'. Nevertheless, for uniformity estimates of category 'n' are used in this study to express 'neutrality', i.e. not particularly either of the other two attributes 'a' or 'b' of a concept.

The limits of categories 'a' and 'b' with category 'n' are further specified by median and quartiles of factor scores in each factor:



The estimates in the upper quartile (Q1) measure most clearly attribute 'a' and in the lower quartile (Q3) attribute 'b'. Sub-categories (a) and (b) represent a weaker level of the attributes in question. The limits of factor scores of the five factors of supervisory behaviour in each attribute category are given in Table 5.

TABLE 5. Limits of factor scores in various attribute categories of the five factors of the behaviour of supervisors

	attributes				
Factors	a	(a)	n	(b)	b
I	≥ 562	561-535	534-448	447-428	≤ 427
II	≥ 563	562-544	543-475	474-448	≤ 447
III	≥ 560	559-535	534-455	454-434	≤ 433
IV	≥ 558	557-539	538-470	469-449	≤ 448
V	≥ 553	552-541	540-474	473-453	≤ 452

Although the attributes 'a' and 'b' are here divided into two sub-categories, there are only three attributes for each concept: 'a', 'n' and 'b'. Sub-categories will be used to give more detailed information about distribution of the estimates when studying the relationships between the attributes of the behaviour of supervisors in supervisor-student interaction.

4. A Procedure for Studying Relationships Between Attributes

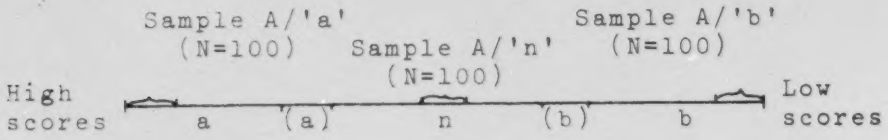
For studying relationships between the attributes of the behaviour of supervisors, samples of subjects to represent each attribute should first be selected. Also a system should be found to show how relationships between attributes can be defined, i.e. how to name 'corresponding' attributes for an attribute among the attributes of the behaviour. Finally the relationships between the attributes of the behaviour should be studied and defined.

4.1. Samples

In factor analysis, assessments by an individual student teacher of the behaviour of an individual supervisor resulted in five factor scores (factors I-V). Factor scores of a factor can be regarded as estimates of the concept which is obtained by the interpretation of the factor in question. For each concept of the behaviour it is then possible to select samples of estimates which are located in the scale of factor scores closest to attribute 'a' (high factor scores), to attribute 'n' (medium scores) and closest to attribute 'b' (low scores).

In this study there are five factors and five concepts and fifteen attributes of the behaviour of supervisors. For studies of relationships between the attributes I have used two different types of samples for each attribute.

Sample A (N=100): One hundred cases of assessments of 1528 individual supervisor-student relationships are selected to represent an attribute. This means that for each concept of the behaviour of supervisors there are three samples of a hundred cases: one to represent attribute 'a', one to represent attribute 'n' and one to represent attribute 'b'. The location of the samples on the scale of factor scores (N=1528) of a factor is given below.



Because there are altogether fifteen attributes of the behaviour of supervisors, there are also fifteen samples of type A. An individual supervisor-student relationship can belong at most to

five samples simultaneously.

Sample B (N=50): The selection of this sample is based on different criteria from that of Sample A, although the assessments of the behaviour are partly the same in A and B. Sample B is used as a control for analyses with Sample A. The sample is selected in two phases, for instance by attribute 1a, 'authoritarian': 1) eight supervisors (the upper quartile of the means of factor scores in Factor I) who are assessed by student teachers as 'authoritarian' are identified, and 2) a sample (N=50) of individual supervisor-student relationships of these supervisors are selected into Sample B.

Sample B can be regarded as a sort of 'washed' group of cases in relation to an attribute, when an individual assessment of the behaviour of a supervisor by a student teacher is obviouly justifiable; the actual behaviour of a supervisor is experienced by student teachers in general for instance as 'authoritarian'.

As above, Sample B can be found to represent each of the fifteen attributes of the behaviour of supervisors. Again an individual supervisor-student relationship can belong at most to five samples.

4.2. Definition of Corresponding Attributes

As before when defining the limits of attribute categories the median and quartiles of factor scores in a sample will be used also to define a corresponding attribute for an attribute amongst the attributes 'a', 'n' or 'b' of an-

other concept. In Table 6 the results of analyses done in Appendix 8 are summarized.

The corresponding attribute is defined by analyzing the attributes of concept at the median and quartile limits of factor scores of a sample. The 'corresponding' attribute is the attribute among the three attributes of a concept that is most likely to combine with a particular attribute of a sample. In a sample there may be subjects that do not agree with the majority of the group. This can, for instance, result from the vagueness of estimates of behaviour and from actual individual differences. The thirty five possible variations of combinations of attributes at median and quartiles are given in the table. The procedure takes into account to some extent the distribution of estimates of behaviour in a sample. In some special cases one attribute can have two or three 'corresponding' attributes.

4.3. Relationships Between the Attributes of the Behaviour of Supervisors

The relationships between attributes of the behaviour of supervisors are analyzed in Tables 7.1. - 7.5. Each table gives the relations of fifteen attributes to attributes 'a', 'n' and 'b' of one of the five concepts. The analyses for defining corresponding attributes are done in Sample A and Sample B of an attribute. These two subanalyses give an independent proposal for the corresponding attribute. The corresponding attribute is defined by the information given in Table 6. Finally the findings in Sample A and Sample B are considered together to decide which is the corresponding attribute for the attribute, represented in the analyses by these two samples.

TABLE 6. Definition of a corresponding attribute for a sample among the attributes 'a', 'n' and 'b' of a concept.
Summary of analyses in Appendix 8.

	1)			2)		
	Q_1	Md	Q_3	a	n	b
1.	a	a	a	a		
2.	a	a	(a)	a		
3.	a	a	n	a		
4.	a	a	(b)	a		
5.	a	a	b	a		(b)
6.	a	(a)	(a)	a		
7.	a	(a)	n	a		
8.	a	(a)	(b)	a		
9.	a	(a)	b	a		(b)
10.	a	n	n	(a)	n	
11.	a	n	(b)	(a)	n	
12.	a	n	b	(a)	n	(b)
				(a)		(b)
				a		b
13.	a	(b)	(b)	(a)		(b)
14.	a	(b)	b	(a)		b
15.	a	b	b	(a)		b

	1)			2)		
	Q_1	Md	Q_3	a	n	b
16.	(a)	(a)	(a)	(a)		
17.	(a)	(a)	n	(a)		
18.	(a)	(a)	(b)	(a)		
19.	(a)	(a)	b	(a)		(b)
20.	(a)	n	n		n	
21.	(a)	n	(b)		n	
22.	(a)	n	b		n	(b)
23.	(a)	(b)	(b)			(b)
24.	(a)	(b)	b			b
25.	(a)	b	b			b

	1)			2)		
	Q_1	Md	Q_3	a	n	b
26.	n	n	n		n	
27.	n	n	(b)		n	
28.	n	n	b		n	(b)
29.	n	(b)	(b)			(b)
30.	n	(b)	b			b
31.	n	b	b			b

	1)			2)		
	Q_1	Md	Q_3	a	n	b
32.	(b)	(b)	(b)			(b)
33.	(b)	(b)	b			b
34.	(b)	b	b			b
35.	b	b	b			b

1) attribute of a concept at median and quartile limits of estimates in a hypothetical sample

2) corresponding attribute(s) among the attributes of the concept

TABLE 7.1 Attributes of the behaviour of supervisors in relation to attributes 1a, 1n and 1b of Concept 1* Study by median and quartiles of factor scores of Factor 1 in Sample A and Sample B of each attribute.

1) Number of factor scores in categories 1a, 1n and 1b
2) Attribute of Concept 1 at median and quartile limits of f-scores
3) Proposed corresponding attribute(s) among the attributes of C1

Concepts	Attributes	Samples A (N= 100) 1) 1a	1n	1b	2) Q_1	Md	Q_3	3) 1a	1n	1b	Samples B (N= 50) 1) 1a	1n	1b	2) Q_1	Md	Q_3	3) 1a	1n	1b	Corresponding attribute(s) among the attributes of C1	1a	1n	1b
* C1	1a authoritarian	100			a	a	a	a			50			a	a	a	a			1a	a		
	1n neutral	-	100	-	n	n	n		n			50		n	n	n		n		1n		n	
	1b non-authoritarian			100	b	b	b			b			50	b	b	b			b	1b			b
C2	2a stable	60	19	21	a	a	n	a			24	11	15	a	(a)	(b)	a			2a	a		
	2n neutral	33	29	38	(a)	n	b		n	(b)	21	17	12	(a)	n	(b)		n		2n		n	
	2b unstable	50	28	22	a	(a)	n	a			26	8	16	a	(a)	(b)	a			2b	a		
C3	3a easy-going	27	26	47	(a)	(b)	b			b	13	14	23	n	(b)	b			b	3a			b
	3n neutral	35	23	42	a	n	b	(a)		(b)	18	11	21	a	n	b	(a)		(b)	3n	(a)		(b)
	3b serious	30	37	33	(a)	n	(b)		n		18	18	14	a	n	b	(a)	n	(b)	3b		n	
C4	4a positive	31	20	49	a	(b)	b	(a)		b	12	7	31	n	(b)	b			b	4a			b
	4n neutral	29	35	36	(a)	n	(b)		n		13	20	17	(a)	n	(b)		n		4n		n	
	4b negative	32	28	40	(a)	n	b		n	(b)	15	17	18	(a)	n	b		n	(b)	4b		n	(b)
C5	5a sympathetic	42	37	21	a	n	n	(a)	n		9	24	17	n	n	(b)		n		5a		n	
	5n neutral	35	23	32	(a)	n	(b)		n		19	15	16	a	n	(b)	(a)	n		5n		n	
	5b unsympathetic	53	34	13	a	(a)	n	a			32	12	6	a	a	n	a			5b	a		

TABLE 7.2 Attributes of the bahaviour of supervisors in relation to attributes 2a, 2n and 2b of Concept 2. Study by median and quartiles of factor scores of Factor II in Sample A and Sample B of each attribute.

1) Number of factor scores in categories 2a, 2n and 2b
2) Attribute of Concept 2 at median and quartile limits of f-scores
3) Proposed corresponding attribute(s) among the attributes of C2

Concepts	Attributes	Samples A (N= 100) 1) 2a	1) 2n	1) 2b	2) Q_1	2) Md	2) Q_3	3) 2a	3) 2n	3) 2b	Samples B (N= 50) 1) 2a	1) 2n	1) 2b	2) Q_1	2) Md	2) Q_3	3) 2a	3) 2n	3) 2b	Corresponding attribute(s) among the attributes of C2	C2 2a	C2 2n	C2 2b
C1	1a authoritarian	42	19	39	a	n	b	a		b	23	7	20	a	n	b	a		b	1a	a		b
	1n neutral	30	28	42	(a)	n	b		n	(b)	12	13	25	(a)	(b)	b			b	1n			b
	1b non-authoritarian	33	40	27	(a)	n	(b)		n		21	22	7	(a)	n	n		n		1b		n	
C2	2a stable	100	-	-	a	a	a	a			50	-	-	a	a	a	a			2a	a		
	2n neutral	-	100	-	n	n	n		n		-	50	-	n	n	n		n		2n		n	
	2b unstable	-	-	100	b	b	b			b	-	-	50	b	b	b			b	2b			b
C3	3a easy-going	23	36	41	n	n	b		n	(b)	14	14	22	(a)	n	b		n	(b)	3a		n	(b)
	3n neutral	27	21	52	(a)	(b)	b			b	10	13	27	n	(b)	b			b	3n			b
	3b serious	43	33	24	a	n	n	(a)	n		26	14	10	a	(a)	n	a			3b	(a)		
C4	4a positive	60	26	14	a	(a)	n	a			33	13	4	a	(a)	n	a			4a	a		
	4n neutral	26	31	43	(a)	n	b		n	(b)	16	11	23	a	n	b	(a)	n	(b)	4n		n	(b)
	4b negative	20	29	51	n	(b)	b			b	9	12	29	n	b	b			b	4b			b
C5	5a sympathetic	41	25	34	a	n	b	(a)	n	(b)	15	21	14	(a)	n	(b)		n		5a		n	
	5n neutral	33	39	28	(a)	n	(b)		n		17	23	10	a	n	n	(a)	n		5n		n	
	5b unsympathetic	18	17	65	n	b	b			b	9	13	28	n	(b)	b			b	5b			b

TABLE 7.3 Attributes of behaviour of supervisoirs in relation to attributes 3a, 3n and 3b of Concept 3* Study by median and quartiles of factor scores of Factor III in Sample A and Sample B of each attribute.

1) Number of factor scores in categories 3a, 3n and 3b
2) Attribute of Concept 3 at median and quartile limits of f-scores
3) Proposed corresponding attribute(s) among the attributes of C3

Concepts	Attributes	Samples A (N=100) 1)			2)			3)			Samples B (N=50) 1)			2)			3)			Corresponding attribute(s) among the attributes of C3			
		3a	3n	3b	Q_1	Md	Q_3	3a	3n	3b	3a	3n	3b	Q_1	Md	Q_3	3a	3n	3b		3a	3n	3b
C1	1a authoritarian	22	28	50	n	(b)	b			b	17	17	16	a	n	b	(a)	n	(b)	1a			(b)
	1n neutral	27	39	34	(a)	n	b		n	(b)	9	24	17	n	n	b		n	(b)	1n		n	(b)
	1b non-authoritarian	39	28	33	a	n	b	(a)	n	(b)	20	17	13	(a)	n	(b)		n		1b		n	
C2	2a stable	38	28	34	(a)	n	b		n	(b)	15	10	25	(a)	(b)	b			b	2a			(b)
	2n neutral	31	34	35	(a)	n	b		n	(b)	15	13	22	(a)	n	b		n	(b)	2n		n	(b)
	2b unstable	28	46	26	(a)	n	(b)		n		14	22	14	(a)	n	(b)		n		2b		n	
C3*	3a easy-going	100	-	-	a	a	a	a			50	-	-	a	a	a	a			3a	a		
	3n neutral	-	100	-	n	n	n		n		-	50	-	n	n	n		n		3n		n	
	3b serious	-	-	100	b	b	b			b	-	-	50	b	b	b			b	3b			b
C4	4a positive	35	31	34	(a)	n	b		n	(b)	17	16	17	(a)	n	b		n	(b)	4a		n	(b)
	4n neutral	32	41	27	(a)	n	(b)		n		12	19	19	n	n	b		n	(b)	4n		n	
	4b negative	29	36	35	a	n	b	(a)	n	(b)	17	18	15	a	n	(b)	(a)	n		4b	(a)	n	
C5	5a sympathetic	31	34	35	(a)	n	b		n	(b)	19	11	20	a	n	b	(a)		(b)	5a			(b)
	5n neutral	25	30	45	n	n	b		n	(b)	9	14	27	n	(b)	b			b	5n			b
	5b unsympathetic	30	32	38	(a)	n	b		n	(b)	13	21	16	(a)	n	b		n	(b)	5b		n	(b)

TABLE 7.4 Attributes of the behaviour of supervisors in relation to attributes 4a, 4n and 4b of Concept 4.* Study by median and quartiles of factor scores of Factor IV in Sample A and Sample B of each attribute.

1) Number of factor scores in categories 4a, 4n and 4b
2) Attribute of Concept 4 at median and quartile limits of f-scores
3) Proposed corresponding attribute(s) among the attributes of C4

Concepts	Attributes	Samples A (N=100) 1)			2)			3)			Samples B (N= 50) 1)			2)			3)			Corresponding attribute(s) among the attributes of C4			
		4a	4n	4b	Q_1	Md	Q_3	4a	4n	4b	4a	4n	4b	Q_1	Md	Q_3	4a	4n	4b		4a	4n	4b
C1	1a authoritarian	26	26	48	(a)	(b)	b			b	13	12	25	(a)	(b)	b			b	1a			b
	1n neutral	34	30	36	(a)	n	b		n	(b)	16	16	18	(a)	n	b		n	(b)	1n		n	(b)
	1b non-authoritarian	43	26	31	a	n	(b)	(a)	n		18	16	16	a	n	(b)	(a)	n		1b	(a)	n	
C2	2a stable	37	21	42	a	n	b	(a)	n	(b)	15	17	18	(a)	n	b		n	(b)	2a		n	(b)
	2n neutral	31	30	39	(a)	n	(b)		n		14	16	20	(a)	n	b		n	(b)	2n		n	
	2b unstable	17	25	58	n	(b)	b			b	9	12	29	n	b	b			b	2b			b
C3	3a easy-going	30	24	46	(a)	n	b		n	(b)	16	16	18	(a)	n	b		n	(b)	3a		n	b
	3n neutral	40	25	35	a	n	(b)	(a)	n		17	13	20	(a)	n	(b)		n		3n		n	
	3b serious	39	26	35	(a)	n	(b)		n		20	11	19	a	n	(b)	(a)	n	(b)	3b		n	
* C4	4a positive	100	-	-	a	a	a	a			50	-	-	a	a	a	a			4a	a		
	4n neutral	-	100	-	n	n	n		n		-	50	-	n	n	n		n		4n		n	
	4b negative	-	-	100	b	b	b			b	-	-	50	b	b	b			b	4b			b
C5	5a sympathetic	33	29	38	a	n	b	(a)	n	(b)	18	17	15	a	n	(b)	(a)	n		5a	(a)	n	
	5n neutral	36	38	26	a	n	n	(a)	n		26	15	9	a	(a)	n	a			5n	a		
	5b unsympathetic	16	27	57	n	b	b			b	8	15	27	n	(b)	b			b	5b			b

TABLE 7.5 Attributes of the behaviour of supervisors in relation to attributes 5a, 5n and 5b of concept 5.* Study by median and quartiles of factor scores of Factor V in Sample A and Sample B of each attribute.

1) Number of factor scores in categories 5a, 5n and 5b
2) Attribute of Concept 5 at median and quartile limits of f-scores
3) Proposed corresponding attribute(s) among the attributes of C5

Concepts	Attributes	Samples A (N=100) 1) 5a	5n	5b	2) Q_1	Md	Q_3	3) 5a	5n	5b	Samples B (N=50) 1) 5a	5n	5b	2) Q_1	Md	Q_3	3) 5a	5n	5b	Corresponding attribute(s) among the attributes of C5	5a	5n	5b
C1	1a authoritarian	25	16	59	(a)	b	b			b	8	7	35	n	b	b			b	1a			b
	1n neutral	30	36	34	(a)	n	(b)		n		11	20	19	n	n	(b)		n		1n		n	
	1b non-authoritarian	52	29	19	a	(a)	n	a			25	15	10	a	(a)	n	a			1b	a		
C2	2a stable	30	28	42	(a)	n	b		n	(b)	17	14	19	(a)	n	b		n	(b)	2a		n	(b)
	2n neutral	26	41	33	(a)	n	(b)		n		15	14	21	(a)	n	b		n	(b)	2n		n	
	2b unstable	39	16	45	(a)	n	b		n	(b)	16	6	28	(a)	b	b			b	2b			b
C3	3a easy-going	30	26	44	(a)	n	b		n	(b)	8	17	25	n	(b)	b			b	3a			b
	3n neutral	42	26	32	a	n	(b)	(a)	n		25	13	12	a	(a)	n	a			3n	a		
	3b serious	50	21	29	a	(a)	(b)	a			24	9	17	a	(a)	(b)	a			3b	a		
C4	4a positive	47	35	18	(a)	n	n		n		14	24	12	(a)	n	n		n		4a		n	
	4n neutral	34	26	40	(a)	n	(b)		n		17	13	20	a	n	b	(a)	n	(b)	4n		n	
	4b negative	38	22	40	(a)	n	b		n	(b)	14	5	31	(a)	b	b			b	4b			b
* C5	5a sympathetic	100	-	-	a	a	a	a			50	-	-	a	a	a	a			5a	a		
	5n neutral	-	100	-	n	n	n		n		-	50	-	n	n	n		n		5n		n	
	5b unsympathetic	-	-	100	b	b	b			b	-	-	50	b	b	b			b	5b			b

In general, the analyses in Samples A and in Samples B give very similar suggestions for corresponding attributes. Only in a few cases have the results of Sample A been adjusted by the findings in Sample B. The analyses seem to indicate that the relationships between the attributes of the behaviour of supervisors as measured here are fairly constant and reliable enough for using as a basis for further analyses of the behaviour.

The relationships between the attributes of the behaviour of supervisors as assessed by student teachers are collected from Tables 7.1. - 7.5. and summarized in Matrix 5. This matrix will be referred to whenever the behaviour of supervisors is analyzed in this report.

Graphic presentation of the relationships (a model) is not given here because for further studies the same information is available in the matrix.

If two attributes in the matrix are not directly in relation to each other, they can be combined by a third attribute.

5. Discussion

The relationships between the attributes of the behaviour of supervisors defined in this chapter were based on assessments by a certain sample of student teachers. The reliability and validity of the results depend primarily on how well the student teachers and supervisors of this study represent student teachers and supervisors in general, and how well the concepts derived from the questionnaire cover the student-supervisor interaction. In addition, although the procedures for defining relationships between concepts

MATRIX 5. Relationships between the attributes of the behaviour of supervisors assessed by student teachers

row	factors	concepts	attributes		F1 C1 a	F1 C1 n	F1 C1 b	F2 C2 a	F2 C2 n	F2 C2 b	F3 C3 a	F3 C3 n	F3 C3 b	F4 C4 a	F4 C4 n	F4 C4 b	F5 C5 a	F5 C5 n	F5 C5 b	factors / concepts / attributes
1			authoritarian	a	a			a		b			(b)			b			b	
2	F1	C1	neutral	n		n			(b)			n	(b)		n	(b)		n		
3			non-authoritarian	b			b		n			n		(a)	n		a			
4			stable	a	a			a					(b)			n	(b)		n	(b)
5	F2	C2	neutral	n		n			n			n	(b)		n			n		
6			unstable	b	a					b		n				b			b	
7			easy-going	a			b		n	(b)	a				n	(b)			b	
8	F3	C3	neutral	n	(a)		(b)			b		n			n			a		
9			serious	b		n		(a)					b		n			a		
10			positive	a			b	a				n	(b)	a					n	
11	F4	C4	neutral	n		n			n	(b)		n				n			n	
12			negative	b		n	(b)			b	(a)	n				b				b
13			sympathetic	a		n			n				(b)	(a)	n			a		
14	F5	C5	neutral	n		n			n				b	a					n	
15			unsympathetic	b	a					b		n	(b)			b				b

seemed to work fairly well, it is likely that more precise procedures could be developed. Future studies may further clarify the relationships between concepts and they may cause some modifications of the present results.

The interpretation of various types of supervisory behaviour will be analyzed and discussed in Chapter IV with the information given in Matrix 5.

CHAPTER IV

INTERPRETATION OF THE BEHAVIOUR OF SUPERVISORS

Introduction

The previous chapter dealt with the relationships between the attributes of the behaviour of supervisors, and the results are summarized in Matrix 5 (p. 70). Each row in the matrix gives the attributes that are most likely to be combined with the particular attribute. In this chapter each of the fifteen attributes will be analyzed by its combinations with the other attributes, and the behaviour of supervisors will be interpreted in those cases where one of the fifteen attributes was the dominant aspect of their behaviour.

Although Matrix 5 gives only one or a few alternative combinations of attributes in each row, these combinations are related to the special cases when an attribute (e.g. 'authoritarian') characterizes most clearly a certain type of supervisory behaviour. To avoid stereotyped thinking it should be kept in mind that there are altogether 81 possibilities for an attribute to belong to a combination of attributes, and 243 possible combinations of attributes when the number of concepts is five and the number of attributes fifteen (cf. Table 4, p. 43). However, the interpretations of the behaviour of supervisors made in this chapter can be regarded as the most general and most typical kinds of supervisory behaviour.

The behaviour of the supervisors included in this study will not be analyzed individually in this report. The kind

of procedures used here can be applied equally well to general interpretations of the behaviour of supervisors and to interpreting the behaviour of a particular supervisor when the attributes of his behaviour are known.

Each of the analyses of the behaviour of supervisors will be carried out in the following phases:

1) The combinations of attributes that describe a certain type of behaviour of supervisors characterized by the attribute in question are taken from Matrix 5. This is followed by a general discussion of the qualities of the behaviour in terms of the attributes in the combination.
2) The relationships between the attributes of the combination are also taken from Matrix 5 and are summarized in a matrix and presented also in a model. In addition, information about relationships between the attributes is collected in a list under each attribute in the combination, to clarify the interpretation and elucidate the dynamic nature of behaviour.
3) The interpretation of the behaviour of supervisors based on the relationships of the attributes comes last. Detailed information about the behaviour is already available in the list of the relationships of the attributes. Therefore under interpretation attention is mainly given to the aspects that are considered central to the understanding of a particular type of behaviour.

The qualities of each attribute will be defined here by its combinations with the other attributes. However, the actual content of the attribute, i.e. the original variables of the behaviour which the attribute represents, should always be kept in mind. The original variables will also be referred to occasionally, and they have already been categorized under each attribute (see pp. 54-56).

1. Authoritarian Behaviour

In Matrix 5 the first row gives the attributes that characterize most clearly authoritarian behaviour of supervisors. These attributes are:

1. general attitudes to students: 1a authoritarian
2. role stability: 2a stable or 2b unstable
3. style of working: 3b serious
4. effect of supervision: 4b negative
5. attitudes to individual students: 5b unsympathetic

There are two main ways of behaving in an authoritarian way. One is related to a stable and the other to an unstable role of the supervisor. These two types of authoritarian behaviour will be discussed separately. All the other attributes are the same in both cases. Authoritarian attitudes here are dominant among the attributes of supervisory behaviour. In addition, a serious style of working, a negative effect of supervision and unsympathetic attitudes to individual student teachers are the aspects of the behaviour which is experienced by student teachers as authoritarian.

1.1. Authoritarian Behaviour with Stable Role

Matrix 5.1.1.* gives the relationships between the attributes of authoritarian behaviour taken from Matrix 5 (row 1)

---

* 5. refers to Matrix 5
  5.1. refers to the first row in Matrix 5 which gives the attributes of authoritarian behaviour
  5.1.1. refers to a particular combination of attributes (with stable role) in Matrix 5, row 1.

in the case of a stable supervisory role. The graphic presentation of relations is in Model 5.1.1. The relationships between the attributes are also listed to clarify the qualities of the attributes for interpretation of authoritarian behaviour.

Interpretation (1) of <u>authoritarian behaviour</u>:

Authoritarian behaviour is here characterized by authoritarian general attitudes (1a), a stable role (2a), a serious style of working (3b), a negative effect of supervision (4b) and unsympathetic attitudes to individual student teachers (5b).

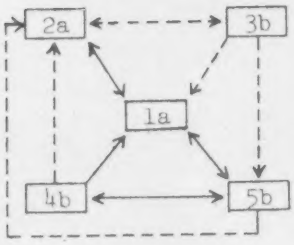
When a stable supervisory role (clear instructions, confidence in making comments, relevant and impartial evaluations) is an aspect of authoritarian behaviour, the behaviour of the supervisor can be characterized as highly conscientious and responsible, but fairly rigid and task centred (2a, 3b, 1a). The supervisor is insensitive and indifferent or defensive to the problems of individual student teachers (5b). The effect of supervision tends to be negative (4b); the supervisor is likely to react to this by more formality (1a, 2a) and to further neglect of the emotional aspects of interaction with individual students (5b).

The main problems with this type of authoritarian behaviour of supervisors are probably the supervisor's difficulties in finding personal ways of communicating with individual student teachers.

MATRIX 5.1.1.

		1a	2a	3b	4b	5b
authoritarian	1a		a	(b)	b	b
stable	2a	a		(b)	(b)	(b)
serious	3b	-	(a)		-	-
negative	4b	-	-	-		b
unsympathetic	5b	a	-	(b)	b	

MODEL 5.1.1.



Relationships between the attributes of supervisory behaviour in type (1) of authoritarian behaviour

---

1a Authoritarian attitudes to student teachers

result from:

2a stable role
(3b) serious style
4b negative effect
5b unsympathetic attitudes

lead to:

2a stable role
5b unsympathetic attitudes

2a Stable supervisory role

results from:

1a authoritarian attitudes
(3b) serious style
(4b) negative effect
(5b) unsympathetic attitudes

leads to:

1a authoritarian attitudes
(3b) serious style

3b Serious style of working

results from:

(2a) stable role

leads to:

(1a) authoritarian attitudes
(2a) stable role
(5b) unsympathetic attitudes

4b Negative effect of supervision

results from:

5b unsympathetic attitudes

leads to:

1a authoritarian attitudes
(2a) stable role
5b unsympathetic attitudes

5b Unsympathetic attitudes to individual student teachers

result from:

1a authoritarian attitudes
(3b) serious style
4b negative effect

lead to:

1a authoritarian attitudes
(2a) stable role
4b negative effect

1.2. Authoritarian Behaviour with Unstable Role

Here authoritarian attitudes are also dominant among the attributes of supervisory behaviour. Relationships between the attributes and the qualities of the attributes are discussed in the following. Matrix 5.1.2. and Model 5.1.2. give the relations of the attributes which describe the authoritarian behaviour in the case of an unstable supervisory role.

Interpretation (2) of authoritarian behaviour:

Authoritarian behaviour is characterized by authoritarian general attitudes (1a), an unstable role (2b), a serious style of working (3b), a negative effect of supervision (4b) and unsympathetic attitudes to individual student teachers (5b).

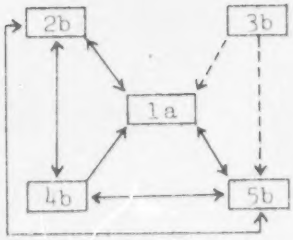
When an unstable role (unclear instructions, unsure comments, irrelevant and biassed evaluations) is a part of authoritarian behaviour, the supervisor is unsure in his role. Lack of self-confidence makes him strengthen his role by more formality (1a with 3b). Although he has unsympathetic, indifferent attitudes to individual student teachers (5b), he is probably sensitive to his own problems in the role of supervisor, and to the emotional aspects of relationships with student teachers (2b; feels unsure). Because of lack of self-confidence he has some fear of being criticized, and is likely to avoid personal contacts with students. His behaviour is defensive and is experienced by student teachers as authoritarian, formal and remote (1a, 3b, 5b).

The effect of supervision tends to be negative (4b): this results mainly from the unstable role and unsympathetic attitudes. Failure in supervision is likely to keep the role unstable and to strengthen unsympathetic and authoritarian attitudes to student teachers. The problems

MATRIX 5.1.2.

		1a	2b	3b	4b	5b
authoritarian	1a		b	(b)	b	b
unstable	2b	a		-	b	b
serious	3b	-	-		-	-
negative	4b	-	b	-		b
unsympathetic	5b	a	b	(b)	b	

MODEL 5.1.2.



Relationships between the attributes of supervisory behaviour in type (2) of authoritarian behaviour

---

1a Authoritarian attitudes to student teachers

result from:

- 2b unstable role
- (3b) serious style
- 4b negative effect
- 5b unsympathetic attitudes

lead to:

- 2b unstable role
- 5b unsympathetic attitudes

2b Unstable supervisory role

results from:

- 1a authoritarian attitudes
- 4b negative effect
- 5b unsympathetic attitudes

leads to:

- 1a authoritarian attitudes
- 4b negative effect
- 5b unsympathetic attitudes

3b Serious style of working

results from:

-

leads to:

- (1a) authoritarian attitudes
- (5b) unsympathetic attitudes

4b Negative effect of supervision

results from:

- 2b unstable role
- 5b unsympathetic attitudes

leads to:

- 1a authoritarian attitudes
- 2b unstable role
- 5b unsympathetic attitudes

5b Unsympathetic attitudes to individual student teachers

result from:

- 1a authoritarian attitudes
- 2b unstable role
- (3b) serious style
- 4b negative effect

lead to:

- 1a authoritarian attitudes
- 2b unstable role
- 4b negative effect

---

of authoritarian behaviour are here involved both in the supervisor's difficulties in finding his identity in the role of supervisor and in his difficulties in communicating with individual students.

2. Behaviour of Supervisors based on Neutral Attitudes to Student Teachers

Neutral attitudes to student teachers in general will be defined by 'neutrality' in the attributes 'authoritarian' and 'non-authoritarian'. Neutral attitudes are combined with other attributes as given in Matrix 5 (row 2) and the attributes are:

1. general attitudes to students: 1n neutral
2. role stability: 2b unstable
3. style of working: 3n neutral or 3b serious
4. effect of supervision: 4n neutral or 4b negative
5. attitudes to individual students: 5n neutral

If the attitudes to student teachers in general are neutral (not authoritarian or non-authoritarian) the supervisory role is generally quite unstable. The style of working is either serious or neutral (not easy-going or serious). The effect of supervision is most likely to be more or less negative (neutral or negative). As well as the supervisor's neutral attitudes to students in general, he also tends to react to individual students less emotionally, with neutrality.

Two examples of supervisory behaviour are discussed in detail here. In the first neutral attitudes are related to a negative effect of supervision and to a serious style of working. In the second neutral attitudes go with neutral effect and neutral style.

2.1. Neutral Attitudes with Negative Effect of Supervision

The relationships between the attributes of supervisory behaviour are given in Matrix 5.2.1. and in Model 5.2.1. Summarized findings are listed after these.

Interpretation (1) of supervisory behaviour based on neutral attitudes to student teachers:

Neutral attitudes (1n) are here affected by an unstable role (2b), a serious style of working(3b), a negative effect of supervision (4b), and neutral attitudes to individual student teachers (5n).

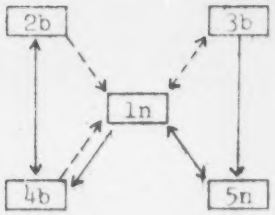
The general atmosphere of communication between the supervisor and student teachers is quite impersonal or neutral (1n, 5n). The supervisor takes his work seriously (3b), but he probably cannot vary his behaviour to meet the personal needs of student teachers. His behaviour tends to be task centred and fastidious. At the same time the supervisory role is experienced by students as unstable (2b). The effect of supervision is negative (4b). This results mainly from the unstable role and neutral attitudes to student teachers in general. The serious style of working and neutral attitudes to individual student teachers do not directly lead to the negative effect.

The supervisor probably has quite unclear or superficial objectives for supervision; he has difficulties in finding his identity in the role of supervisor.

MATRIX 5.2.1.

		1n	2b	3b	4b	5n
neutral	1n		(b)	(b)	(b)	n
unstable	2b	-		-	b	-
serious	3b	n	-		-	-
negative	4b	n	b	-		-
neutral	5n	n	-	b	-	

MODEL 5.2.1.



Relationships between the attributes of supervisory behaviour in type (1) of neutral attitudes to student teachers in general

---

1n Neutral attitudes to student teachers

result from:	lead to:
(2b) unstable role	4b negative effect
(3b) serious style	5n neutral attitudes to individual students
(4b) negative effect	
5n neutral attitudes to individual students	

2b Unstable supervisory role

resuots from:	leads to:
4b negative effect	(1n) neutral general attitudes
	4b negative effect

3b Serious style of working

results from:	leads to:
1n neutral general attitudes	(1n) neutral general attitudes
	5n neutral attitudes to individual students

4b Negative effect of supervision

results from:	leads to:
1n neutral attitudes	(1n) neutral attitudes
2b unstable role	2b unstable role

5n Neutral attitudes to individual student teachers

result from:	lead to:
1n neutral general attitudes	1n neutral general attitudes
3b serious style	

2.2. Neutral Attitudes with Neutral Effect of Supervision

The relationships between the attributes of this type of supervisory behaviour are given in Matrix 5.2.2. and Model 5.2.2. It differs from the neutral attitudes just described in that the effect of supervision is neutral instead of negative, and that the style of working is neutral instead of serious.

Interpretation (2) of supervisory behaviour based on neutral attitudes to student teachers:

Neutral attitudes (1n) in this case are combined with an unstable role (2b), a neutral style of working (3n), a neutral effect of supervision (4n) and neutral attitudes to individual student teachers (5n),

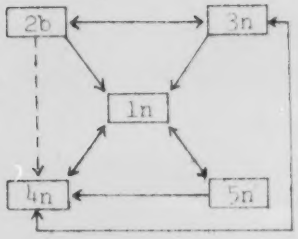
The supervisor feels unsure in his supervisory role (2b), and he is likely to behave conventionally both in his interactions with student teachers (1n, 5n) and in his style of working (3n).

The effect of supervision is also neutral (4n); therefore supervision has little effect on the professional development of student teachers. The neutral effect of supervision leads to and rewards the supervisor's neutral attitudes to student teachers and his particular way of working. There are thus no obvious reasons for the supervisor to change his role behaviour, which appears quite safe and satisfactory to him. However, from the student teacher's point of view this kind of supervision is fairly trivial and not stimulating.

MATRIX 5.2.2.

		1n	2b	3n	4n	5n
neutral	1n		b	n	n	n
unstable	2b	-		n	-	-
neutral	3n	-	b		n	-
neutral	4n	n	(b)	n		n
neutral	5n	n	-	-	-	

MODEL 5.2.2.



Relationships between the attributes of supervisory behaviour in type (2) of neutral attitudes to student teachers in general

---

1n Neutral attitudes to student teachers in general

result from:

- 2b unstable role
- 3n neutral style
- 4n neutral effect
- 5n neutral attitudes to individual students

lead to:

- 4n neutral effect
- 5n neutral attitudes to individual students

2b Unstable supervisory role

results from:

- 3n neutral style

leads to:

- 1n neutral general attitudes
- 3n neutral style
- (4n) neutral effect

3n Neutral style of working

results from:

- 2b unstable role
- 4n neutral effect

leads to:

- 1n neutral general attitudes
- 2b unstable role
- 4n neutral effect

4n Neutral effect of supervision

results from:

- 1n neutral general attitudes
- (2b) unstable role
- 3n neutral style
- 5n neutral attitudes to individual students

leads to:

- 1n neutral general attitudes
- 3n neutral style

5n Neutral attitudes to individual student teachers

result from:

- 1n neutral general attitudes

lead to:

- 1n neutral general attitudes
- 4n neutral effect

---

3. Non-authoritarian Behaviour

Attributes which describe most obviously non-authoritarian supervisory behaviour are given in Matrix 5 (row 3). The attributes are listed in the following:

1. general attitudes to students: 1b non-authoritarian
2. role stability: 2n neutral
3. style of working: 3n neutral
4. effect of supervision: 4a positive or 4n neutral
5. attitudes to individual students: 5a sympathetic

There are two main possible ways for a supervisor to be non-authoritarian. When non-authoritarian attitudes are the dominant aspect of supervisory behaviour, the effect of supervision tends to be positive or neutral. These findings do not show direct links between a negative effect and non-authoritarian attitudes. In addition, non-authoritarian attitudes are most clearly combined with a neutral (neither stable nor unstable) role, a neutral (neither easy-going nor serious) style of working and sympathetic attitudes to individual student teachers.

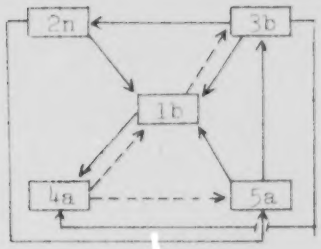
3.1. Non-authoritarian Behaviour with Positive Effect of Supervision

The relationships between the attributes of non-authoritarian supervisory behaviour with a positive effect of supervision are in Matrix 5.3.1. The information in the matrix is further clarified by Model 5.3.1, and by the detailed summary of the relationships between the attributes in question.

MATRIX 5.3.1.

		1b	2n	3n	4a	5a
non-authoritarian	1b		n	n	(a)	a
neutral	2n	-		n	-	-
neutral	3n	(b)	-		-	a
positive	4a	b	-	n		-
sympathetic	5a	-	n	-	(a)	

MODEL 5.3.1.



Relationships between the attributes of supervisory behaviour in type (1) of non-authoritarian behaviour

---

1b Non-authoritarian attitudes to student teachers

result from:	lead to:
2n neutral role stability	(3n) neutral style
3n neutral style	4a positive effect
(4a) positive effect	
5a sympathetic attitudes	

2n Neutral role stability

results from:	leads to:
3n neutral style	1b non-authoritarian attitudes
	5a sympathetic attitudes

3n Neutral style of working

results from:	leads to:
(1b) non-authoritarian attitudes	1b non-authoritarian attitudes
5a sympathetic attitudes	2n neutral role stability
	4a positive effect

4a Positive effect of supervision

results from:	leads to:
1b non-authoritarian attitudes	(1b) non-authoritarian attitudes
3n neutral style	(5a) sympathetic attitudes

5a Sympathetic attitudes to individual student teachers

result from:	lead to:
2n neutral role stability	1b non-authoritarian attitudes
(4a) positive effect	3n neutral style

Interpretation (1) of non-authoritarian behaviour:

Non-authoritarian supervisory behaviour here results from the combinations of non-authoritarian attitudes (1b), a neutral role (2n), a neutral style of working (3n), a positive effect of supervision (4a) and sympathetic attitudes (5a).

The supervisor aims at creating a personal and positive atmosphere for student teaching (1b, 5a). This makes it possible for student teachers to behave individually. The role of the supervisor is flexible. There is little status difference between the supervisor and the student teachers. The supervisor does not stress his status as a supervisor (2n, 3n), but acts more as a colleague.

Mainly because of the non-authoritarian attitudes and neutral, not very easy-going or very serious, style of working the effect of supervision is positive. Positive feed-back reinforces the supervisor's non-authoritarian and sympathetic attitudes to student teachers. The open communication with students means that the supervisor can get a better idea of the results of his actions, therefore he can immediately alter his way of behaving when it seems justifiable.

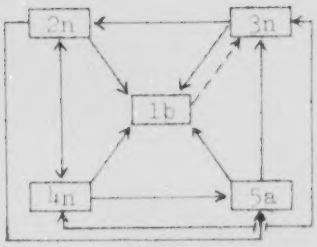
3.2. Non-authoritarian Behaviour with Neutral Effect of Supervision

Matrix 5.3.2. and Model 5.3.2. give the relationships between the attributes of non-authoritarian supervisory behaviour, when the effect of supervision is experienced by student teachers as neutral.

MATRIX 5.3.2.

		1b	2n	3n	4n	5a
non-authoritarian	1b		n	n	n	a
neutral	2n	-		n	n	-
neutral	3n	(b)	-		n	a
neutral	4n	-	n	n		-
sympathetic	5a	-	n	-	n	

MODEL 5.3.2.



Relationships between the attributes of supervisory behaviour in type (2) of non-authoritarian behaviour

---

1b Non-authoritarian attitudes to student teachers

result from:	lead to:
2n neutral role	(3n) neutral style
3n neutral style	
4n neutral effect	
5a sympathetic attitudes	

2n Neutral role stability

results from:	leads to:
3n neutral style	1b non-authoritarian attitudes
4n neutral effect	4n neutral effect
	5a sympathetic attitudes

3n Neutral style of working

results from:	leads to:
(1b) non-authoritarian attitudes	1b non-authoritarian attitudes
4n neutral effect	2n neutral role
5a sympathetic attitudes	4n neutral effect

4n Neutral effect of supervision

results from:	leads to:
2n neutral role	1b non-authoritarian attitudes
3n neutral style	2n neutral role
	3n neutral style
	5a sympathetic attitudes

5a Sympathetic attitudes to individual student teachers

result from:	lead to:
2n neutral role	1b non-authoritarian attitudes
4n neutral effect	3n neutral style

Interpretation (2) of non-authoritarian behaviour:

The characteristics of supervisory behaviour in this situation are defined by combinations of non-authoritarian attitudes (1b), neutral role stability (2n), neutral style of working (3n), neutral effect of supervision (4n) and sympathetic attitudes to individual student teachers (5a).

As in the previous example of non-authoritarian behaviour the role of the supervisor is less dominant (2n, 3n) and more stress is given to positive and free communication in student-supervisor interaction (1b, 5a). The effect of supervision remains, however, neutral (4n). This results mainly from the neutral supervisory role and the neutral style of working. This probably means that the supervisor has some tendency to overemphasize the importance of a positive atmosphere at the expense of the results of supervision. The interaction between supervisor and students is primarily a pleasant social experience, but the supervision does little to help the student teacher find his own identity as a teacher.

4. Stable Role Behaviour

The attributes of stable role behaviour (Matrix 5, row 4) are given in the following list:

1. general attitudes to students: 1a authoritarian
2. role stability: 2a stable
3. style of working: 3b serious
4. effect of supervision: 4n neutral or 4b negative
5. attitudes to individual students: 5n neutral or 5b unsympathetic

Stable role behaviour includes most clearly the qualities of authoritarian attitudes and a serious style of working. The effect of supervision varies from neutral to negative. Attitudes to individual student teachers are either neutral

or unsympathetic.

Of the possible combinations of attributes above, one is identical to a previously discussed type of supervisory behaviour, where a stable role is part of authoritarian behaviour. In this situation a stable role and authoritarian attitudes are also combined with a serious style of working, a negative effect and unsympathetic attitudes.

Another example will be dealt with here, where a stable role is combined with a neutral effect of supervision and neutral (not sympathetic or unsympathetic) attitudes to individual student teachers.

4.1. Stable Role with Negative Effect of Supervision

The interpretation of supervisory behaviour is identical with type 1.1., where both authoritarian attitudes and a stable role strongly affect the picture of the behaviour of supervisors.

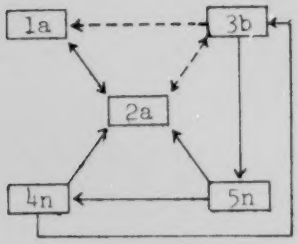
4.2. Stable Role with Neutral Effect of Supervision

The relationships between the attributes of stable role behaviour with a neutral effect of supervision are shown in Matrix 5.4.2. and Model 5.4.2. The relationships are summarized in a list.

MATRIX 5.4.2.

		1a	2a	3b	4n	5n
authoritarian	1a		a	(b)	-	-
stable	2a	a		(b)	n	n
serious	3b	-	(a)		n	-
neutral	4n	-	-	-		n
neutral	5n	-	-	b	-	

MODEL 5.4.2.



Relationships between the attributes of supervisory behaviour in type (2) of stable supervisory role

---

1a Authoritarian attitudes to student teachers in general

result from:
- 2a stable role
- (3b) serious style

lead to:
- 2a stable role

2a Stable supervisory role

results from:
- 1a authoritarian attitudes
- (3b) serious style
- 4n neutral effect
- 5n neutral attitudes

leads to:
- 1a authoritarian attitudes
- (3b) serious style

3b Serious style of working

results from:
- (2a) stable role
- 4n neutral effect

leads to:
- (1a) authoritarian attitudes
- (2a) stable role
- 5n neutral attitudes

4n Neutral effect of supervision

results from:
- 5n neutral attitudes

leads to:
- 2a stable role
- 3b serious style

5n Neutral attitudes to individual student teachers

result from:
- 3b serious style

lead to:
- 2a stable role
- 4n neutral effect

Interpretation (2) of stable role behaviour:

The behaviour of supervisors is here characterized by authoritarian attitudes (1a), a stable role (2a), a serious style of working (3b), a neutral effect of supervision (4n) and neutral attitudes to individual student teachers (5n).

The supervisor appreciates the supervisory role and takes his work seriously (1a, 2a, 3b). He tries to keep his own status high and runs supervision mainly on his own terms. His attitudes to individual student teachers are neutral (5n), which primarily results from his serious style of working (3b). The supervisor stresses the formal aspects of student teaching (e.g. demands detailed lesson plans, is fastidious/3b) and at the same time tends to ignore student teachers as individuals. This is the main reason why the effect of supervision is experienced by the students as neutral or moderate (4n). The neutral effect tends to strengthen primarily the supervisor's stable role and his serious style of working.

It seems likely that in this case of stable role behaviour, the supervisor has a fairly narrow view of the objectives of student teaching and supervision. Student teaching is then considered as more or less a formal period before qualifying as a teacher.

5. Neutral Role Stability

The attributes of neutral role stability in the behaviour of supervisors (Matrix 5, row 5) are given in the following:

1. general attitudes to students: 1n neutral
2. role stability: 2n neutral
3. style of working: 3n neutral or 3b serious

4. effect of supervision: 4n neutral
5. attitudes to individual students: 5n neutral

When the role behaviour of a supervisor is experienced by student teachers as neutral (not stable or unstable) it is likely that the other characteristics of his behaviour are also relatively neutral. There seems to be some variability only in the supervisor's style of working (neutral or serious). Neutral role stability is thus the result of supervisory behaviour that tends to be neutral in all respects. The two types of neutral role stability, one with a neutral style of working and the other with a serious style of working, are analyzed and discussed in the following.

5.1. Neutral Role with Neutral Style of Working

The relationships between the attributes of supervisory behaviour in the type of neutral role stability with neutral (not easy-going or serious) style of working are given in Matrix 5.5.1. and in Model 5.5.1. A detailed summary of the relationships is shown in the list after these.

Interpretation (1) of neutral role stability:

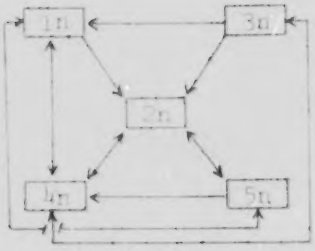
In this type of supervisory behaviour all the attributes are neutral: the supervisor's general attitudes (1n), the stability of the supervisory role (2n), the style of working (3n), the effect of supervision (4n) and the attitudes to individual student teachers(5n).

The role of the supervisor is very conventional and he is quite cautious in his relationships with student teachers. Supervision gives student teachers little intellectual or affective stimulus (1n, 2n, 3n. 4n, 5n). The

MATRIX 5.5.1.

		1n	2n	3n	4n	5n
neutral	1n		-	n	n	n
neutral	2n	n		n	n	n
neutral	3n	-	-		n	n
neutral	4n	n	n	n		n
neutral	5n	n	n	-	-	

MODEL 5.5.1.



Relationships between the attributes of supervisory behaviour in type (1) of neutral role stability

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1n Neutral attitudes to student teachers in general

result from:

- 3n neutral style
- 4n neutral effect
- 5n neutral attitudes

lead to:

- 2n neutral role
- 4n neutral effect
- 5n neutral attitudes

2n Neutral role stability

results from:

- 1n neutral attitudes
- 3n neutral style
- 4n neutral effect
- 5n neutral attitudes

leads to:

- 4n neutral effect
- 5n neutral attitudes

3n Neutral style of working

results from:

- 4n neutral effect

leads to:

- 1n neutral attitudes
- 2n neutral role
- 4n neutral effect

4n Neutral effect of supervision

results from:

- 1n neutral attitudes
- 2n neutral role
- 3n neutral style
- 5n neutral attitudes

leads to:

- 1n neutral attitudes
- 2n neutral role
- 3n neutral style

5n Neutral attitudes to individual student teachers

result from:

- 1n neutral attitudes
- 2n neutral role

lead to:

- 1n neutral attitudes
- 2n neutral role
- 4n neutral effect

---

role of the student teacher is relatively independent, but they are left to work more or less as they please. 'Lack' of supervision does not, however, lead to negative effect, but is not experienced by student teachers as positive either. The neutral effect of supervision (4n) seems to be strongly related to all aspects of neutral role behaviour. This means that the supervision gives little help to student teachers in their educational process.

The supervisor is probably not very interested in clarifying the objectives for supervision and in student teaching in general.

5.2. Neutral Role with Serious Style of Working

Relationships between the attributes of the behaviour of supervisor in the type of neutral role stability with a serious style of working are given in Matrix 5.5.2. and in Model 5.5.2. A list of relationships is also given.

Interpretation (2) of neutral role stability:

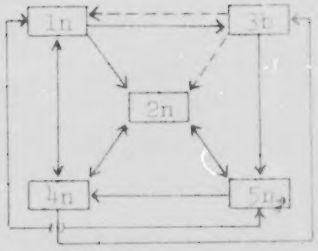
The characteristics of neutral role behaviour in this case are: neutral general attitudes (1n), neutral role stability (2n), serious style of working (3b), neutral effect of supervision (4n) and neutral attitudes to individual student teachers (5n).

The motivation of the supervisor in his own work is higher here compared with the previous example of neutral role stability. Although the basic elements of the behaviour are almost the same, the general atmosphere is now quite different. The supervisor is now more active (3b) and he seriously tries to do something for student teachers. These activities are, however, directed more to formal approaches to student teaching (e.g. lesson plans)

MATRIX 5.5.2.

		1n	2n	3b	4n	5n
neutral	1n		-	(b)	n	n
neutral	2n	n		(b)	n	n
serious	3b	n	-		n	-
neutral	4n	n	n	-		n
neutral	5n	n	n	b	-	

MODEL 5.5.2.



Relationships between the attributes of supervisory behaviour in type (2) of neutral role stability

---

1n Neutral attitudes to student teachers in general

result from:
- (3b) serious style
- 4n neutral effect
- 5n neutral attitudes to individual students

lead to:
- 2n neutral role
- 3b serious style
- 4n neutral effect
- 5n neutral attitudes to individual students

2n Neutral role stability

results from:
- 1n neutral attitudes
- (3b) serious style
- 4n neutral effect
- 5n neutral attitudes

leads to:
- 4n neutral effect
- 5n neutral attitudes

3b Serious style of working

results from:
- 1n neutral attitudes
- 4n neutral effect

leads to:
- (1n) neutral attitudes
- (2n) neutral role
- 5n neutral attitudes

4n Neutral effect of supervision

results from:
- 1n neutral attitudes
- 2n neutral role
- 5n neutral attitudes

leads to:
- 1n neutral attitudes
- 2n neutral role
- 3b serious style

5n Neutral attitudes to individual student teachers

result from:
- 1n neutral attitudes
- 2n neutral role
- 3b serious style

lead to:
- 1n neutral attitudes
- 2n neutral role
- 4n neutral effect

---

than to the student teachers themselves. Relationships with students remain relatively remote or neutral (1n, 5n).

The effect of supervision is neutral (4n). As the reaction to this the supervisor tries to work seriously. The serious style of working does not lead directly to the neutral effect, which means that the neutral effect is more a reason for working seriously than vice versa (see Model 5.5.2.).

The supervisor is fairly alone in his supervisory role because of the poor communication with student teachers. The image of the behaviour of the supervisor remains neutral and indefinite.

6. Unstable Role Behaviour

In Matrix 5 (row 6) the attributes that are most commonly combined with one another to characterize unstable behaviour of supervisors are:

1. general attitudes to students: 1a authoritarian
2. role stability: 2b unstable
3. style of working: 3n neutral
4. effect of supervision: 4b negative
5. attitudes to individual students: 5b unsympathetic

When the role of a supervisor is predominantly unstable, the supervisor tends to have authoritarian attitudes to student teachers in general and to behave unsympathetically towards individual student teachers. The style of working is mostly relatively neutral (neither easy-going nor serious). The effect of supervision is negative.

Matrix 5 gives no alternative combination of attributes to describe unstable supervisory behaviour. The above

pattern of attributes is quite clear-cut.

Relationships between the attributes of unstable role behaviour are shown in Matrix 5.6.1. and in Model 5.6.1.

Interpretation of unstable role behaviour:

Model 5.6.1. shows that an unstable role (2b) has strong mutual relations with all the other attributes in the combination. Because of the unbalanced supervisory behaviour the attitudes to student teachers in general and to individual students tend to be quite affective and negative (1a, 5b). There is probably quite a lot of tension between the supervisor and the student teachers. The supervisor tries to ignore or avoid personal contacts with student teachers because of his own ambivalent supervisory role. Lack of self-confidence (in 2b) may also be one reason for authoritarian attitudes, a tendency to have strict and inflexible opinions (1a), but this kind of behaviour is fairly unreal.

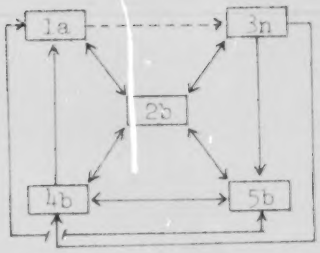
The neutral style of working (3n) is experienced by student teachers as part of unsympathetic attitudes and unstable role. These three aspects together result in a negative effect of supervision. Authoritarian attitudes do not directly cause a negative effect, but are rather reactions to failure in supervision.

It seems likely that the problems of unstable role behaviour are prominently involved in the supervisor's personal problems in identifying with the role of supervisor. It follows that he also has difficulties in communicating with student teachers.

MATRIX 5.6.1.

		1a	2b	3n	4b	5b
authoritarian	1a		b	-	b	b
unstable	2b	a		n	b	b
neutral	3n	(a)	b		-	-
negative	4b	-	b	n		b
unsympathetic	5b	-	b	n	b	

MODEL 5.6.1.



Relationships between the attributes of unstable supervisory behaviour

---

1a Authoritarian attitudes

result from

- 2b unstable role
- 4b negative effect
- 5b unsympathetic attitudes

lead to:

- 2b unstable role
- (3n) neutral style of working
- 5b unsympathetic attitudes

2b Unstable role behaviour

results from:

- 1a authoritarian attitudes
- 3n neutral style
- 4b negative effect
- 5b unasympathetic attitudes

leads to:

- 1a authoritarian attitudes
- 3n neutral style
- 4b negative effect
- 5b unsympathetic attitudes

3n Neutral style of working

results from:

- 2b unstable role
- (1a) authoritarian attitudes

leads to:

- 2b unstable role
- 4b negative effect

4b Negative effect of supervision

results from:

- 2b unstable role
- 3n neutral style
- 5b unsympathetic attitudes

leads to:

- (1a) authoritarian attitudes
- 2b unstable role
- 5b unsympathetic attitudes

5b Unsympathetic attitudes to individual student teachers

result from:

- 1a authoritarian attitudes
- 2b unstable role
- 3n neutral style
- 4b negative effect

lead to:

- 1a authoritarian attitudes
- 2b unstable role
- 4b negative effect

---

7. Easy-going Style of Working

The attributes of supervisory behaviour when an easy-going style of working is the dominant aspect of behaviour are given in Matrix 5 (row 7) and the attributes are:

1. general attitudes to students: 1b non-authoritarian
2. role stability: 2n neutral or 2b unstable
3. style of working: 3a easy-going
4. effect of supervision: 4n neutral or 4b negative
5. attitudes to individual students: 5b unsympathetic

The easy-going style of working is most clearly related to non-authoritarian general attitudes and unsympathetic, indifferent attitudes to individual student teachers. The stability of the supervisory role can vary from neutral to unstable. The effect of supervision tends to be either neutral or negative.

Two examples of easy-going supervisory behaviour are selected here for detailed discussion. One is related to a neutral effect of supervision and the other to a negative effect.

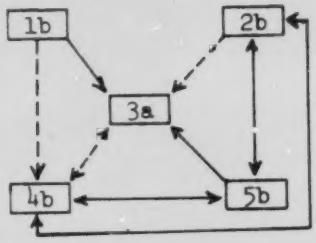
7.1. Easy-going Style of Working with Negative Effect of Supervision

The relationships between the attributes in question are given in Matrix 5.7.1. and in Model 5.7.1. followed by a list of relationships. The unstable role is also part of this combination of attributes.

MATRIX 5.7.1.

		1b	2b	3a	4b	5b
non-authoritarian	1b		-	-	-	-
unstable	2b	-		-	b	b
easy-going	3a	b	(b)		(b)	b
negative	4b	(b)	b	(a)		b
unsympathetic	5b	-	b	-	b	

MODEL 5.7.1.



Relationships between the attributes of supervisory behaviour in type (1) of easy-going style of working

---

1b Non-authoritarian attitudes to student teachers

result from: -

lead to:
- 3a easy-going style
- (4b) negative effect

2b Unstable supervisory role

results from:
- 4b negative effect
- 5b unsympathetic attitudes

leads to:
- (3a) easy-going style
- 4b negative effect
- 5b unsympathetic attitudes

3a Easy-going style of working

results from:
- 1b non-authoritarian attitudes
- (2b) unstable role
- (4b) negative effect
- 5b unsympathetic attitudes

leads to:
- (4b) negative effect

4b Negative effect of supervision

results from:
- (1b) non-authoritarian attitudes
- 2b unstable role
- (3a) easy-going style
- 5b unsympathetic attitudes

leads to:
- 2b unstable role
- (3a) easy-going style
- 5b unsympathetic attitudes

5b Unsympathetic attitudes to individual student teachers

result from:
- 2b unstable role
- 4b negative effect

lead to:
- 2b unstable role
- 3a easy-going style
- 4b negative effect

Interpretation (1) of easy-going style of working:

An easy-going (3a) style in the behaviour of supervisors is here characterized by non-authoritarian general attitudes (1b), an unstable role (2b), a negative effect of supervision (4b) and unsympathetic attitudes to individual student teachers (5b).

The general atmosphere is free and democratic (1b), but the supervisor pays little attention to individual student teachers (5b). Indifferent attitudes to the students are here closely related to the unstable role of the supervisor (2b) and to the negative effect (4b). The supervisor tends to react to failure in supervision by seeming unconcern (3a, 5b) and by unstable role behaviour (e.g. in 2b; unsure, biassed). He seems to cope with the problems of supervision rather by laying them aside than by trying to solve them.

In this situation the supervisor probably finds it difficult to define objectives for his work or is unwilling to analyze the aspects of student teaching and his own role in this process.

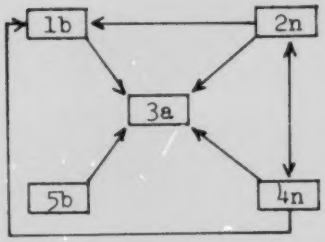
7.2. Easy-going Style of Working with Neutral Effect of Supervision

This type includes neutral role stability as well as a neutral effect of supervision among the attributes combined with an easy-going style of working. Relationships of attributes are given in Matrix 5.7.2. and in Model 5.7.2. and in the detailed list below.

MATRIX 5.7.2.

		1b	2n	3a	4n	5b
non-authoritarian	1b		n	-	n	-
neutral	2n	-		-	n	-
easy-going	3a	b	n		n	b
neutral	4n	-	n	-		-
unsympathetic	5b	-	-	-	-	

MODEL 5.7.2.



Relationships between the attributes of supervisory behaviour in type (2) of easy-going style of working

---

1b Non-authoritarian attitudes to student teachers

result from:

2n neutral role
4n neutral effect

lead to:

3a easy-going style

2n Neutral role stability

results from:

4n neutral effect

leads to:

1b non-authoritarian attitudes
3a easy-going style
4n neutral effect

3a Easy-going style of working

results from:

1b non-authoritarian attitudes
2n neutral role
4n neutral effect
5b unsympathetic attitudes

leads to:

-

4n Neutral effect of supervision

results from:

2n neutral role

leads to:

1n non-authoritarian attitudes
2n neutral role
3a easy-going style

5b Unsympathetic attitudes to individual student teachers

result from:

-

lead to:

3a easy-going style

Interpretation (2) of easy-going style of working:

An easy-going style (3a) in this type is combined with non-authoritarian attitudes (1b), neutral role stability (2n), a neutral effect of supervision (4n) and with unsympathetic attitudes (5b).

It seems essential here that the behaviour of the supervisor results in an easy-going style, which can be regarded as an output of the whole process of behaviour. The easy-going style does not lead to any of the other characteristics in the combination of attributes (see Model 5.7.2.), but is fairly strongly affected by all of them. This probably means that the supervisor tends to react to everything involved in his supervision mainly by an easy-going style. For instance, the effect of supervision is quite neutral (4n) which leads directly to the easy-going style, but simultaneously the neutral effect strengthens the easy-going style through non-authoritarian general attitudes (1b) and neutral role stability (2n). The supervisor has superficial and indifferent attitudes (5b) to individual student teachers. This is experienced by student teachers as unsympathetic . The latter is an essential part of the easy-going working style, but does not lead to any other characteristics in the combination of attributes. Although the general atmosphere is very free and democratic (1b), the supervisor is likely to avoid or neglect personal contacts with student teachers.

The objectives are fairly unclear and the supervisor probably feels little responsibility for the personal development of the student teachers.

8. Neutral Style of Working

A neutral style of working is defined here as neither 'easy-going' nor 'serious'. Matrix 5 (row 8) gives the attributes of supervisory behaviour, that are combined to describe a neutral style of working. The attributes are:

1. general attitudes to students: 1a authoritarian or 1b non-authoritarian
2. role stability: 2b unstable
3. style of working: 3n neutral
4. effect of supervision: 4n neutral
5. attitudes to individual students: 5a sympathetic

A neutral (not very easy-going or very serious) style of working can in general be combined either with authoritarian or non-authoritarian attitudes to student teachers. These two situations will be discussed and analyzed in the following. The other aspects of a neutral style of working are the same in both cases. A neutral style is most commonly related to an unstable supervisory role. The effect of supervision is likely to be relatively neutral. Sympathetic attitudes to individual student teachers are common to the kind of supervisory behaviour where a neutral style of working is the dominant aspect of behaviour.

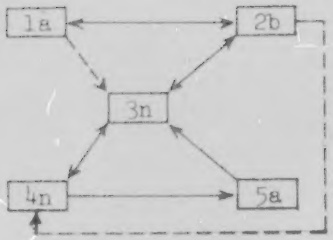
8.1. Neutral Style of Working with Authoritarian Attitudes

Relationships between the attributes are given in Matrix 5.8.1. and in Model 5.8.1. and in the detailed list below. In this case authoritarian attitudes are included in the combination of attributes.

MATRIX 5.8.1.

		1a	2b	3n	4n	5a
authoritarian	1a		b	-	-	-
unstable	2b	a		n	-	-
neutral	3n	(a)	b		n	a
neutral	4n	-	(b)	n		-
sympathetic	5a	-	-	-	a	

MATRIX 5.8.1.



Relationships between the attributes of supervisory behaviour in type (1) of neutral style of working

---

1a Authoritarian attitudes to student teachers

result from:	lead to:
2b unstable role	2b unstable role
	(3n) neutral style

2b Unstable supervisory role

results from:	leads to:
1a authoritarian attitudes	1a authoritarian attitudes
3n neutral style	3n neutral style
	(4n) neutral effect

3n Neutral style of working

results from:	leads to:
(1a) authoritarian attitudes	2b unstable role
2b unstable role	4n neutral effect
4n neutral effect	
5a sympathetic attitudes	

4n Neutral effect of supervision

results from:	leads to:
(2b) unstable role	3n neutral style
3n neutral style	5a sympathetic attitudes

5a Sympathetic attitudes to individual student teachers

result from:	lead to:
4n neutral effect	3n neutral style

Interpretation (1) of neutral style of working:

In this situation neutral style of working (3n) is combined with authoritarian general attitudes (1a), an unstable role (2b), a neutral effect of supervision (4n) and sympathetic attitudes to individual student teachers (5a).

In principle a neutral style of working can be regarded as a balanced situation where the supervisor does not take his work too seriously, but is not too easy-going either. Here, however, the neutral style is a reaction to an unstable role of the supervisor (2b). The supervisor feels unsure in his role and a neutral style could be seen as a way of balancing the supervisor's own role behaviour. Authoritarian general attitudes to student teachers (1a) are related most strongly to an unstable role of the supervisor. In spite of fairly rigid general attitudes to student teachers, the supervisor has personal, sympathetic attitudes (5a) to individual student teachers. This is most obviously due to a neutral effect (4n) of supervision. Sympathetic attitudes lead to a neutral style of working.

The neutral style of working may be seen in this case as a compromise between the supervisor's unstable role and his desire to do something for the student teachers during the school practice. The supervisor has probably set out objectives for his work, but because of his unstable role he has difficulties in reaching them.

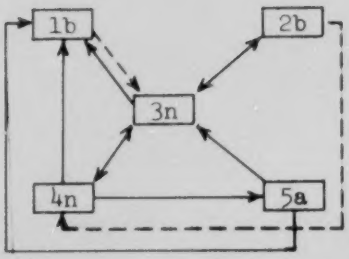
8.2. Neutral Style of Working with Non-authoritarian Attitudes

The relationships between the attributes are given in Matrix 5.8.2. and in Model 5.8.2. Non-authoritarian attitudes are here part of the behaviour.

MATRIX 5.8.2.

		1b	2b	3n	4n	5a
non-authoritarian	1b		-	n	n	a
unstable	2b	-		n	-	-
neutral	3n	(b)	b		n	a
neutral	4n	-	(b)	n		-
sympathetic	5a	-	-	-	n	

MODEL 5.8.2.



Relationships between the attributes of supervisory behaviour in type (2) of neutral style of working

---

1b Non-authoritarian attitudes to student teachers

result from:	lead to:
3n neutral style	(3n) neutral style
4n neutral effect	
5a sympathetic attitudes	

2b Unstable supervisory role

results from:	leads to:
3n neutral style	3n neutral style
	(4n) neutral effect

3n Neutral style of working

results from:	leads to:
(1b) non-authoritarian attitudes	1b non-authoritarian attitudes
2b unstable role	2b unstable role
4n neutral effect	4n neutral effect
5a sympathetic attitudes	

4n Neutral effect of supervision

results from:	leads to:
(2b) unstable role	1b non-authoritarian attitudes
3n neutral style	3n neutral style
	5a sympathetic attitudes

5a Sympathetic attitudes to individual student teachers

result from:	lead to:
4n neutral effect	1b non-authoritarian attitudes
	3n neutral style

Interpretation (2) of neutral style of working:

In this situation the following attributes are combined with a neutral style of working (3n): non-authoritarian attitudes to student teachers in general (1b), an unstable role (2b), a neutral effect of supervision (4n) and sympathetic attitudes (5a).

When non-authoritarian general attitudes to student teachers are related to a neutral style of working, the behaviour of the supervisor is less problematic than in the previous case with authoritarian attitudes. The role of the supervisor is unstable (2b), but it has less effect on communication with students (cf. Model 5.8.2.). Non-authoritarian attitudes (1b) and sympathetic attitudes (5a) are not directly connected with an unstable role. The general atmosphere is free and positive. The work of the supervisor is mainly directed towards getting a harmonious climate for communication with student teachers. The supervisor's own role, although unstable, is more in the background. It does have some influence on the effect of supervision, which remains moderate or neutral (4n).

The supervisor is aware of the importance of emotional factors in supervision. He has, however, some tendency to overemphasize them and to pay less attention to his own role as supervisor.

9. Serious Style of Working

Matrix 5 (row 9) gives the attributes of supervisory behaviour in the case of a very serious style of working. The attributes are the following:

1. general attitudes to students: 1n neutral
2. role stability: 2a stable
3. style of working: 3b serious
4. effect of supervision: 4n neutral
5. attitudes to individual students: 5a sympathetic

In the case of an obviously serious style of working the supervisor's attitudes to student teachers are in general relatively neutral (not authoritarian, but not non-authoritarian either) and his attitudes to individual student teachers are sympathetic. A serious style is also most commonly combined with a stable role. The effect of supervision is likely to be neutral, not very positive, but not very negative either.

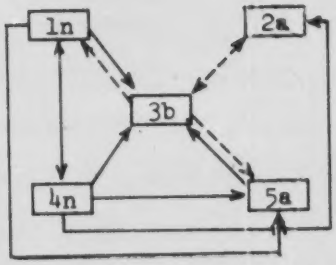
Matrix 5 gives only one combination of attributes to describe the behaviour of the supervisor with a particularly serious style of working. This is discussed and analyzed in the following.

Matrix 5.9.1. and Model 5.9.1. give the relationships of the attributes of serious style in the behaviour of supervisors.

MATRIX 5.9.1.

		1n	2a	3b	4n	5a
neutral	1n		-	(b)	n	-
stable	2a	-		(b)	n	-
serious	3b	n	(a)		n	a
neutral	4n	n	-	-		-
sympathetic	5a	n	-	(b)	n	

MODEL 5.9.1.



Relationships between the attributes of supervisory behaviour in type of serious style of working

---

1n Neutral attitudes to student teachers in general

result from:

(3b) serious style
4n neutral effect

lead to:

3b serious style
4n neutral effect
5a sympathetic attitudes

2a Stable supervisory role

results from:

(3b) serious style
4n neutral effect

leads to:

(3b) serious style

3b Serious style of working

results from:

1n neutral attitudes
(2a) stable role
4n neutral effect
5a sympathetic attitudes

leads to:

(1n) neutral attitudes
(2a) stable role
(5a) sympathetic attitudes

4n Neutral effect of supervision

results from:

1n neutral attitudes

leads to:

1n neutral attitudes
2a stable role
3b serious style
5a sympathetic attitudes

5a Sympathetic attitudes to individual student teachers

result from:

1n neutral attitudes
(3b) serious style
4n neutral effect

lead to:

3b serious style

Interpretation of serious style of working:

Among the above mentioned attributes, the attitudes of supervisor to student teachers (1n and 5a) seem to be most closely related to a serious style of working. The supervisor's behaviour in group situations is likely to be calm and non-affective (1n). He is sensitive to and emotionally involved in the problems of individual student teachers (5a). The supervisor is quite self-confident and stable (2a) in his role behaviour, but this is not a very strong or dominant aspect here. A neutral effect of supervision (4n) seems to have central effects on the whole process of supervision. It results in the supervisor having neutral attitudes in general (1n) and sympathetic attitudes to individual students (5a). It makes him work seriously (3b) and be responsible and impartial in his work (2a). A serious style of working is probably the supervisor's attempt to get better results in supervision, but he stresses the formal aspects of supervision (detailed lesson plans etc.). The supervisor is primarly interested in the final results of individual student teachers and in the final results of his supervision.

10. Positive Effect of Supervision

When the supervision is experienced by student teachers as very positive, the attributes of supervisory behaviour are the following (Matrix 5, row 10):

1. general attitudes to students: 1b non-authoritarian
2. role stability: 2a stable
3. style of working: 3n neutral or 3b serious
4. effect of supervision: 4a positive
5. attitudes to individual students: 5n neutral

There are two different ways of getting positive effect in supervision. Differences between them are based on the supervisor's style of working: in one case the supervisor takes his work seriously (e.g. demands detailed lesson plans, is fastidious), in the other he has quite a neutral (not very serious but not easy-going either) style of working. The other aspects of a positive effect are the same in the two cases. The supervisor is non-authoritarian, but simultaneuously his attitudes to individual students are relatively neutral (not very sympathetic or unsympathetic). The supervisory role is assessed by student teachers as stable (clear instructions, confidence in making comments, relevant and impartial evaluations).

10.1. Positive Effect with Serious Style of Working

Matrix 5.10.1. and Model 5.10.1. give the realtionships between the attributes of supervisory behaviour that result in a highly positive effect of supervision. In the footnote the information about the relationships is summarized.

Interpretation (1) of the behaviour of supervisors that leads to positive effect of supervision:

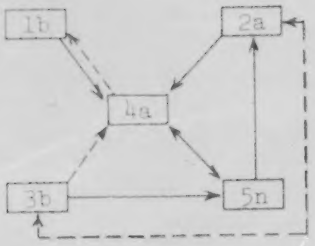
The characteristics of the behaviour are: non-authoritarian general attitudes to student teachers (1b), stable supervisory role (2a), serious style of working (3b), positive effect of supervision (4a) and neutral attitudes to individual students (5n).

The general atmosphere of supervision is free and non-authoritarian (1b). The status difference between supervisor and student teachers is small. The supervisor emphasizes more the process of student teaching, he takes into account student teachers' personal views in developing the

MATRIX 5.10.1.

		1b	2a	3b	4a	5n
non-authoritarian	1b		-	-	(a)	-
stable	2a	-		(b)	-	n
serious	3b	-	(a)		-	-
positive	4a	b	a	(b)		n
neutral	5n	-	-	b	a	

MODEL 5.10.1.



Relationships between the attributes of supervisory behaviour with a positive effect of supervision (1)

1b Non-authoritarian attitudes

result from:
(4a) positive effect

lead to:
4a positive effect

2a Stable supervisory role

results from:
(3b) serious style
5n neutral attitudes

leads to:
(3b) serious style
4a positive effect

3b Serious style of working

results from:
(2a) stable role

leads to:
(2a) stable role
(4a) positive effect
5n neutral attitudes to individual students

4a Positive effect of supervision

results from:
1b non-authoritarian attitudes
2a stable role
(3b) serious style
5n neutral attitudes to individual students

leads to:
(1b) non-authoritarian attitudes
5n neutral attitudes to individual students

5n Neutral attitudes to individual student teachers

result from:
3b serious style
4a positive effect

lead to:
2a stable role
4a positive effect

---

role of prospective teachers. The role of the supervisor is stable (2a), which means that he is confident in making comments, gives clear instructions and that his evaluations are both relevant and impartial. His professional competence is thus relatively high: the effect of supervision is positive. The supervisor takes his work seriously (3b), this mainly leads to neutral attitudes towards individual student teachers (5n). Although the attitudes to student teachers in general are non-authoritarian and communication is free and open, the supervisor is not emotionally involved in the problems of individual students. He is neither very sympathetic nor very unsympathetic. The behaviour of the supervisor is rather that of a senior colleague than of an authority or a friend.

10.2. Positive Effect with Neutral Style of Working

Matrix 5.10.2. and Model 5.10.2. show the relationships between the attributes of the behaviour of supervisors, that result in a positive effect of supervision in the case of a neutral style of working.

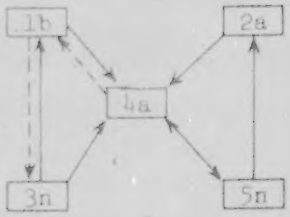
Interpretation (2) of the behaviour of supervisors that leads to positive effect of supervision:

The characteristics of the behaviour are: non-authoritarian general attitudes to students(1b), stable role (2a), neutral style of working (3n), positive effect (4a) and neutral attitudes to individual student teachers (5n).

Basically the interpretation is very similar to that of the type discussed previously. Here, however, the supervisor's style of working is combined with his general attitudes. A neutral style of working makes the supervisor behave in a non-authoritarian way, and this has no direct

MATRIX 5.10.2.[2] MODEL 5.10.2.

		1b	2a	3n	4a	5n
non-authoritarian	1b		-	n	(a)	-
stable	2a	-		-	-	n
neutral	3n	(b)	-		-	-
positive	4a	b	a	n		n
neutral	5n	-	-	-	a	



Relationships between the attributes of supervisory behaviour with a positive effect of supervision (2)

1b Non-authoritarian attitudes to students (in general)

result from:	lead to:
3n neutral style	(3n) neutral style
(4a) positive effect	4a positive effect

2a Stable supervisory role

results from:	leads to:
5n neutral attitudes	4a positive effect

3n Neutral (balanced) style of working

results from:	leads to:
(1b) non-authoritarian attitudes	1b non-authoritarian attitudes
	4a positive effect

4a Positive effect of supervision

results from:	leads to:
1b non-authoritarian attitudes	(1b) non-authoritarian attitudes
2a stable role	5n neutral attitudes to individual students
3n neutral style	
5n neutral attitudes to individual students	

5n Neutral attitudes to individual student teachers

result from:	lead to:
4a positive effect	4a positive effect

---

effect on his attitudes to individual student teachers. The general atmosphere is probably slightly more relaxed than in the other type of supervision with a positive effect.

11. Neutral Effect of Supervision

Matrix 5 (row 11) gives the attributes which most typically are combined with neutral (neither positive nor negative) effect of supervision. These attributes are:

1. general attitudes to students: 1n neutral
2. role stability: 2n neutral or 2b unstable
3. style of working: 3n neutral
4. effect of supervision: 4n neutral
5. attitudes to individual students: 5n neutral

The neutral effect is usually combined with neutral levels of the other concepts: general attitudes to student teachers are neutral (neither authoritarian nor non-authoritarian), the role stability is neutral (neither stable nor unstable) or slightly unstable, the style of working is neutral (not easy-going, but not serious either) and the attitudes to individual student teachers are neutral (not sympathetic or unsympathetic).

As seen above there is variation in the degree of role stability. The two types, one with neutral role stability and the other with unstable role, are discussed in the following.

11.1. Neutral Effect with Neutral Role Stability

This case is identical to a previously discussed type of supervisory behaviour (5.1.), where neutral role stability

is combined with a neutral style of working. The relationships between the attributes are the same. The analyses will not be repeated in this section.

11.2. Neutral Effect with Unstable Role

This is identical to the behaviour of supervisors discussed under neutral attitudes to student teachers in general (type 2.2.). Analyses of the behaviour and interpretation are not repeated here.

12. Negative Effect of Supervision

The attributes of negative effect of supervision in the behaviour of supervisors (Matrix 5, row 12) are given below:

1. general attitudes to students: 1n neutral or 1b non-authoritarian
2. role stability: 2b unstable
3. style of working: 3a easy-going or 3n neutral
4. effect of supervision: 4b negative
5. attitudes to individual students: 5b unsympathetic

A negative effect is most clearly related to an unstable role and unsympathetic attitudes towards individual student teachers. The supervisor's general attitudes vary from neutral to non-authoritarian, and are unlikely to be very authoritarian. The style of working varies from easy-going to neutral. This means that the supervisor taking his work seriously (e.g. demanding detailed lesson plans, being fastidious) does not directly cause negative effect.

There are altogether four different variations of combinations of attributes which are peculiar to supervision that is experienced by student teachers as negative. All these types of behaviour are analysed separately in the following.

12.1. Negative Effect with Neutral General Attitudes and Neutral Style of Working

The relationships of attributes of this type of supervisory behaviour are in Matrix 5.12.1. and in Model 5.12.1. Detailed information from these is given in a list.

Interpretation (1) of the behaviour of supervisors that leads primarily to negative effect of supervision:

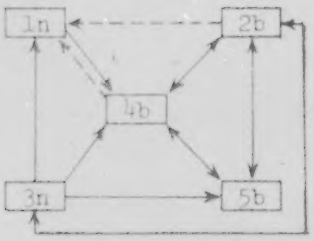
The characteristics of the behaviour are: neutral general attitudes (1n), unstable role (2b), neutral style of working (3n), negative effect (4b) and unsympathetic attitudes (5b).

The supervisor is unsure in his role (2b) and as a reaction to this his attitudes to individual students are likely to be remote and defensive (5b). These two aspects of behaviour are strongly related to failure in supervision, to negative effect (4b). An unstable role also reflects the supervisor's style of working, which is quite conventional (3n), not very serious or easy-going. A neutral style of working makes student teachers think that the supervisor is indifferent to the problems of individual students (5b). The behaviour is experienced as unsympathetic, but also quite indefinite (1n). The whole process results in a negative effect. The supervisor probably finds it difficult to get direct feed-back from his supervision because of lack of communication. He pays more attention

MATRIX 5.12.1.

		1n	2b	3n	4b	5b
neutral	1n		(b)	n	(b)	-
unstable	2b	-		n	b	b
neutral	3n	-	b		-	-
negative	4b	n	b	n		b
unsympathetic	5b	-	b	n	b	

MODEL 5.12.1.



Relationships between the attributes of supervisory behaviour in type (1) of negative effect of supervision

---

1b Neutral attitudes to students in general

result from:
(2b) unstable role
3n neutral style
(4b) negative effect

lead to:
4b negative effect

2b Unstable supervisory role

results from:
3n neutral style
4b negative effect
5b unsympathetic attitudes

leads to:
(1n) neutral attitudes
3n neutral style
4b negative effect
5b unsympathetic attitudes

3n Neutral style of working

results from:
2b unstable role

leads to:
1n neutral attitudes
2b unstable role
4b negative effect
5b unsympathetic attitudes

4b Negative effect of supervision

results from:
1n neutral attitudes
2b unstable role
3n neutral style
5b unsympathetic attitudes

leads to:
(1n) neutral attitudes
2b unstable role
5b unsympathetic attitudes

5b Unsympathetic attitudes to individual student teachers

result from:
2b unstable role
3n neutral style
4b negative effect

lead to:
2b unstable role
4b negative effect

---

to activities that will strengthen his own role as a supervisor than to activities that would help student teachers in their problems in student teaching.

12.2. Negative Effect with Neutral General Attitudes and Easy-going Style of Working

Matrix 5.12.2. and Model 5.12.2. give the relationships of the attributes, which are listed also under each attribute to give detailed information.

Interpretation (2) of the behavipur of supervisors that leads primarily to negative effect of supervision:

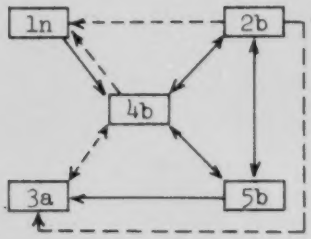
The characteristics of the behaviour are: neutral general attitudes (1n), unstable role (2b), easy-going style of working (3a), negative effect (4b) and unsympathetic attitudes (5b).

As in type 1 of negative effect, the role of the supervisor is unstable (2b). This is most strongly connected with the negative effect (4b) and with the supervisor's unsympathetic attitudes to student teachers (5b). As a reaction to difficulties in supervision, in his own role and in communication with student teachers, the supervisor tends to behave in an easy-going way (3a). He probably belittles the difficulties, or tries to avoid thinking of what is actually happening in his communication with students and what are the effects of his supervision. His attitudes to students in general (1n) are fairly neutral and in personal contacts with students he is likely to be defensive and seemingly indifferent. As a whole, the behaviour of the supervisor seems to be relatively immature. He has difficulties in coping both with his own role and with the problems of student teachers.

MATRIX 5.12.2.

		1n	2b	3a	4b	5b
neutral	1n		(b)	-	(b)	-
unstable	2b	-		-	b	b
easy-going	3a	-	(b)		(b)	b
negative	4b	n	b	(a)		b
unsympathetic	5b	-	b	-	b	

MODEL 5.12.2.



Relationships between the attributes of the behaviour of supervisors in type (2) of negative effect of supervision

---

1n Neutral attitudes to student teachers in general

result from:	lead to:
(2b) unstable role	4b negative effect
(4b) negative effect	

2b Unstable supervisory role

results from:	leads to:
4b negative effect	(1n) neutral attitudes
5b unsympathetic attitudes	(3a) easy-going style
	4b negative effect
	5b unsympathetic attitudes

3a Easy-going style of working

results from:	leads to:
(2b) unstable role	(4b) negative effect
(4b) negative effect	
5b unsympathetic attitudes	

4b Negative effect of supervision

results from:	leads to:
1n neutral attitudes	(1n) neutral attitudes
2b unstable role	2b unstable role
(3a) easy-going style	(3a) easy-going style
5b unsympathetic attitudes	5b unsympathetic attitudes

5b Unsympathetic attitudes to individual student teachers

result from:	leads to:
2b unstable role	2b unstable role
4b negative effect	3a easy-going style
	4b negative effect

12.3. Negative Effect with Non-authoritarian Attitudes and Neutral Style of Working

The relationships of the attributes of this type of behaviour of supervisors are given in Matrix 5.12.3. and in Model 5.12.3. Detailed information about relationships between the attributes is listed after these.

Interpretation (3) of the behaviour of supervisors that leads primarily to negative effect of supervision:

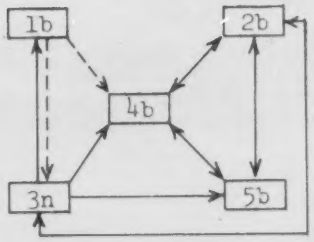
The attributes combined to explain the behaviour are: non-authoritarian general attitudes (1b), unstable role (2b), neutral style of working (3n), negative effect (4b and unsympathetic attitudes to individual students (5b).

The behaviour of the supervisor is here experienced by student teachers as non-authoritarian (1b) mainly because his style of working is quite nautral (3n), i.e. the supervisor does not, for instance, demand very detailed lesson plans, is neither very fastidious nor very easy-going. Non-authoritarian attitudes, however, have little effect on the whole process of behaviour. The unsympathetic, indifferent attitudes to individual student teachers (5b) play a more central role. As in the two previously discussed types of supervision with negative effect, the failure in supervision is mainly due to an unstable role (2b) of the supervisor and to his unsympathetic attitudes. The supervisor has some tendency to lighten the general atmosphere by apparently non-authoritarian attitudes and neutral style of working, but constructive communication with individual students is neglected . The objectives of the supervision are unclear a and the role of the supervisor is indefinite.

MATRIX 5.12.3.

		1b	2b	3n	4b	5b
non-authoritarian	1b		-	n	-	-
unstable	2b	-		n	b	b
neutral	3n	(b)	b		-	-
negative	4b	(b)	b	n		b
unsympathetic	5b	-	b	n	b	

MODEL 5.12.3.



Relationships between the attributes of the behaviour of supervisors in type (3) of negative effect of supervision

---

1b Non-authoritarian attitudes to student teachers in general

result from:	lead to:
3n neutral style	(3n) neutral style (4b) negative effect

2b Unstable supervisory role

results from:	leads to:
3n neutral style	3n neutral style
4b negative effect	4b negative effect
5b unsympathetic attitudes	5b unsympathetic attitudes

3n Neutral style of working

results from:	leads to:
(1b) non-authoritarian attitudes	1b non-authoritarian attitudes
2b unstable role	2b unstable role
	4b negative effect
	5b unsympathetic attitudes

4b Negative effect of supervision

results from:	leads to:
(1b) non-authoritarian attitudes	2b unstable role
2b unstable role	5b unsympathetic attitudes
3n neutral style	
5b unsympathetic attitudes	

5b Unsympathetic attitudes to individual student teachers

result from:	lead to:
2b unstable role	2b unstable role
3n neutral style	4b negative effect
4b negative effect	

12.4. Negative Effect with Non-authoritarian Attitudes and Easy-going Style of Working

This type of behaviour of supervisors is identical with a previously discussed type (7.1.) of easy-going style. The analyses and discussion are not repeated here.

13. Sympathetic Behaviour

Matrix 5 (row 13) gives the attributes characterizing the behaviour of supervisors that is experienced by student teachers as sympathetic. These attributes are:

1. general attitudes to students: 1n neutral
2. role stability: 2n neutral
3. style of working: 3b serious
4. effect of supervision: 4a positive or 4n neutral
5. attitudes to individual students: 5a sympathetic

The list above shows two slightly different combinations of attributes to describe sympathetic behaviour of supervisors. In one case the behaviour is related to a positive effect of supervision and in the other case the effect of supervision is moderate or neutral. All the other aspects of behaviour are the same in these two combiantions. The supervisor's general attitudes to student teachers are neutral (not authoritarian or non-authoritarian) and his role stability is also neutral (not stable but not unstable either).

These two types of sympathetic behaviour of supervisors are analyzed and discussed in the following

13.1. Sympathetic Behaviour with Positive Effect of Supervision

Matrix 5.13.1. and Model 5.13.1. give the relationships of the attributes when sympathetic supervisory behaviour is related to a positive effect of supervision. These are followed by a list, where the relationships are given in detail under each attribute included in the combination.

Interpretation (1) of sympathetic behaviour of supervisors:

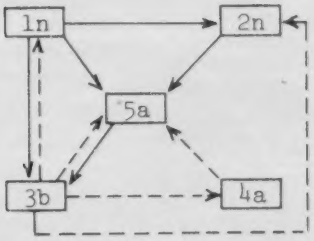
The behaviour of supervisors is characterized here by: neutral general attitudes to student teachers (1n), neutral role stability (2n), serious style of working (3b), positive effect (4a) and sympathetic attitudes to individual students (5a).

The supervisor stresses personal communication with student teachers, he is interested in students as individuals. Attitudes to students in general are a less dominant aspect of his behaviour (1n) and his own role is probably quite flexible (2n). The attitude factors of the behaviour (1n and 5a) are the main reasons for the supervisor's serious style of working (3b). He probably feels responsible for the progress of student teachers, and for his own role as a supervisor in the development of the student teacher's personal role as a teacher. A serious style of working seems to be the main reason why the supervision is experienced by students as positive (4a). The positive effect is, however, more or less a by-product of supervision (see Model 5.13.1.). The supervisor emphasizes sympathetic supervisor-student relationships, but he does not necessarily give very much concrete help by his supervision; e.g. (in 2n) his comments are neutral, his evaluations are not usually very relevant. Nevertheless, the supervisor makes a student teacher feel student teaching is an important phase in his personal development. Supervision is likely to increase the student's motivation to find his personal role as a teacher.

MATRIX 5.13.1.

		1n	2n	3b	4a	5a
neutral	1n		-	(b)	-	-
neutral	2n	n		(b)	-	-
serious	3b	n	-		-	a
positive	4a	-	-	(b)		-
sympathetic	5a	n	n	(b)	(a)	

MODEL 5.13.1.



Relationships between the characteristics of supervisory behaviour in type (1) of sympathetic attitudes to individual students

---

1n Neutral attitudes to student teachers in general

result from:	lead to:
(3b) serious style	2n neutral role 3b serious style 5a sympathetic attitudes

2n Neutral role stability

results from:	leads to:
1n neutral attitudes (3b) serious style	5a sympathetic attitudes

3b Serious style of working

results from:	leads to:
1n neutral attitudes 5a sympathetic attitudes	(1n) neutral attitudes (2n) neutral role (4a) positive effect (5a) sympathetic attitudes

4a Positive effect of supervision

results from:	leads to:
(3b) serious style	(5a) sympathetic attitudes

5a Sympathetic attitudes to individual student teachers

result from:	lead to:
1n neutral general attitudes 2n neutral role (3b) serious style (4a) positive effect	3b serious style

---

13.2. Sympathetic Behaviour with Neutral Effect of Supervision

Matrix 5.13.2. and Model 5.13.2. show the relationships between the attributes of this type of the behaviour of supervisors.

Interpretation (2) of sympathetic behaviour of supervisors:

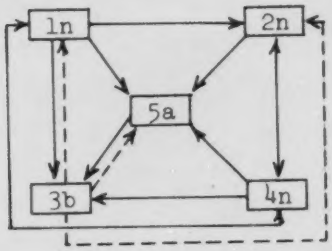
The characteristics of the behaviour are: neutral general attitudes to student teachers (1n), neutral role stability (2n), serious style of working (3b), neutral effect of supervision (4n) and sympathetic attitudes to individual students (5a).

The effect of supervision plays a more important role in the behaviour of the supervisor than in the previous type of sympathetic behaviour. The effect of supervision is now neutral or moderate (4n); mainly affected by neutral general attitudes (1n) and neutral role stability (2n). The supervisor is probably not satisfied with the results of supervision (4n), and as a reaction to this he tends to work seriously and to pay more attention to individual student teachers and to the personal aspects of communication with students. Sympathetic attitudes, however, lead primarily to serious working. Serious style tends to strengthen neutral general attitudes and neutral role stability, which were the main reasons for the neutral effect. The supervision is thus a fairly positive social experience to student teachers, but it does not give them, much actual assistance. The supervisor has some difficulties in finding his identity in the role of a supervisor.

MATRIX 5.13.2.

		1n	2n	3b	4n	5a
neutral	1n			-	(b) n	-
neutral	2n	n			(b) n	-
serious	3b	n	-		n	a
neutral	4n	n	n	-		-
sympathetic	5a	n	n	(b)	n	

MODEL 5.13.2.



Relationships between characteristics of supervisory behaviour in type (2) of sympathetic attitudes to individual student teachers

---

1n Neutral attitudes to student teachers in general

result from:

(3b) serious style
4n neutral effect

lead to:

2n neutral role
3b serious style
4n neutral effect
5a sympathetic atttitudes to individual students

2b Neutral role stability

results from:

1n neutral attitudes
(3b) serious style
4n neutral effect

leads to:

4n neutral effect
5a sympathetic attitudes

3b Serious style of working

results from:

1n neutral attitudes
4n neutral effect
5a sympathetic attitudes

leads to:

(1n) neutral general attitudes
(2n) neutral role
(5a) sympathetic attitudes

4n Neutral effect of supervision

results from:

1n neutral general attitudes
2n neutral role

leads to:

1n neutral general attitudes
2n neutral role
3b serious style
5a sympathetic attitudes

5a Sympathetic attitudes to individual student teachers

result from:

1n neutral general attitudes
2n neutral role
(3b) serious style
4n neutral effect

lead to:

3b serious style

---

14. Behaviour of Supervisors based on Neutral Attitudes to Individual Student Teachers

Neutral attitudes to individual student teachers will be defined by 'neutral' according to the attributes 'sympathetic' and 'unsympathetic'. It follows that the supervisor's attitudes to individual student teachers cannot be regarded as very sympathetic or as very unsympathetic. The combination of attributes of this type of supervisory behaviour are given in Matrix 5 (row 14):

1. general attitudes to student teachers: 1n neutral
2. role stability: 2n neutral
3. style of working: 3b serious
4. effect of supervision: 4a positive
5. attitudes to individual student teachers: 5n neutral

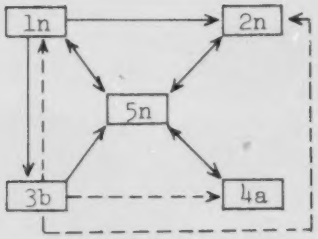
There is only one combination of attributes to describe the supervision that is experienced by student teachers as particularly related to a supervisor's neutral attitudes to individual students. The general attitudes to students are also neutral (not authoritarian or non-authoritarian). Neutral role stability (not stable or unstable) characterizes this type of behaviour. The style of working is serious and the effect of supervision is positive. This is, in fact, the only combination of attributes given in Matrix 5 where the positive effect is strongly and clearly an essential aspect of superwisory behaviour besides the combination of attribute 'positive' itself (row 10). It seems likely that neutral attitudes to individual students with other attributes given above serve as a good basis for success in supervision.

Matrix 5.14.1. and Model 5.14.1. give the relationships between the attributes of this type of behaviour of supervisors.

MATRIX 5.14.1.

		1n	2n	3b	4a	5n
neutral	1n		-	(b)	-	n
neutral	2n	n		(b)	-	n
serious	3b	n	-		-	-
positive	4a	-	-	(b)		n
neutral	5n	n	n	b	a	

MODEL 5.14.1.



Relationships between the attributes of supervisory behaviour with neutral attitudes to individual student teachers

---

1n Neutral attitudes to student teachers in general

result from:

(3b) serious style
5n neutral attitudes

lead to:

2n neutral role
3b serious style
5n neutral attitudes to individual students

2n Neutral role stability

results from:

1n neutral attitudes
(3b) serious style
5n neutral attitudes

leads to:

5n neutral attitudes

3b Serious style of working

results from:

1n neutral attitudes

leads to:

(1n) neutral attitudes
(2n) neutral role
(4a) positive effect
5n neutral attitudes

4a Positive effect of supervision

results from:

(3b) serious style
5n neutral attitudes

leads to:

5n neutral attitudes

5n Neutral attitudes to individual student teachers

result from:

1n neutral attitudes
2n neutral role
3b serious style
4a positive effect

lead to:

1n neutral attitudes
2n neutral role
4a positive effect

Interpretation of the behaviour of supervisors when the attitudes to individual student teachers are neutral:

The characteristics of the behaviour are: neutral general attitudes (1n), neutral role stability (2n), serious style of working (3b), positive effect (4a) and neutral attitudes to individuals (5n).

Mainly because the attitudes both in general (1n) and in personal communication with students (5n) are neutral, the image of role stability remains neutral (2n). The supervisor emphasizes the results of supervision more and his own role in this process less. He is less interested in student teachers as individuals, but more interested in them as prospective teachers. Supervision is probably seen as a part of professional education, and teaching practice in relation to the objectives in the work of a teacher. The supervisor and student teachers are probably considered more as tools than as objects to achieve these aims. The effect of supervision is likely to be positive. This results mainly from neutral attitudes to individual students and is affected by the supervisor's serious style of working.

15. Unsympathetic Behaviour

When the behaviour of supervisors is experienced by student teachers as unsympathetic, the other aspects of behaviour are likely to be the following (Matrix 5, row 15):

1. general attitudes to students: 1a authoritarian
2. role stability: 2b unstable
3. style of working: 1n neutral or 1b serious
4. effect of supervision: 4b negative
5. attitudes to individual students: 5b unsympathetic

The attitudes of the supervisor to student teachers in general are authoritarian and to individual students unsympathetic. The role of the supervisor is unstable, unbalanced. His style of working varies from neutral to serious and is thus seldom easy-going. The effect of supervision is most obviously negative.

The two types of unsympathetic behaviour of supervisors are given below.

15.1. Unsympathetic Behaviour with Serious Style of Working

This type of behaviour and the combinations of attributes are identical to the previously discussed case (1.2.) of authoritarian behaviour with unstable role.

15.2. Unsympathetic Behaviour with Neutral Style of Working

This type of unsympathetic behaviour is identical to case (6.1.) of unstable role behaviour. The analyses and discussion will not be repeated here.

16. Discussion

The relationships between the attributes of the behaviour of supervisors in Matrix 5 give quite a good basis for general interpretations of different types of supervisory behaviour. Interpretations in this chapter indicate also the difficulties in simultaneously taking into consideration all the relationships between the attributes of the behaviour, even when the relationships are known. The dynamic nature of the behaviour will be more easily understood when looking at the matrix, the model and the summary of the relationships between the attributes of a certain type of behaviour. Although the above interpretations are based on systematic knowledge of the relationships, they are quite descriptive. The degree of subjectivity is, however, relatively low, because the interpretations are not based on intuitive conclusions about probable relationships between the variables of the behaviour. This makes the interpretations less haphazard than in many other studies of behaviour.

Analyses in this chapter showed that the content and the meaning of an attribute finally depends on the combination of attributes this attribute is included in, and how these attributes are related to each other to describe a certain type of behaviour. All the most probable combinations of each attribute with the other other attributes taken from Matrix 5 are summarized in Appendix 9. These combinations, as well the behaviour of individual supervisors and individual student-supervisor relationships, will be analyzed outside this report. In addition, observations of student-supervisor interactions and interviews with students and supervisors can be used to test the validity of results given here.

V CONCLUSIONS

In teacher training the student teacher should be able to develop a role as a teacher that will balance the needs of teaching profession in a society with his own needs. Supervision in school practice is a way of helping the student teacher to find his identity as a teacher.

This study shows that the behaviour of supervisors in student-supervisor interactions can have central effects on the personal development of student teachers. The effects of supervision were defined in terms of the effect on the student teacher's style of teaching, ability to vary teaching methods, self-knowledge and self-confidence. The present study gave various behaviour patterns of supervisors with either positive, neutral or negative effect of supervision. Since the student teacher behaves on the basis of his own personality, the same kind of behaviour on the part of the supervisor is not necessarily experienced by all student teachers in the same way. The supervisor should therefore be able to meet individual needs of the student teacher in order to help him in developing his own teacher's role. If student teaching is seen only as a formal period before qualifying, and the supervisor's role as chiefly to control the activities of the student and give opinions for the final assessment of the teaching skills of the student teacher, the role of the student teacher may be rather to please the supervisor than to seek his own role identity. Supervision may then rather obstruct than promote the development of the student teacher.

This study gave five main aspects of the behaviour of supervisors of which the supervisor should be aware in his interactions with student teachers: his general attitudes to student teachers, role stability, his style of working, effects of supervision and his attitudes to individual student teachers. The most usual types of the behaviour of supervisors based on assessments by student teachers and analyses of fifteen attributes of the behaviour in this study may increase understanding of general problems in supervisor-student relationships. However, this is not enough. The supervisor should also be able to analyze his own individual role performandes to become more conscious of the effects of his supervision.

The characteristics of the behaviour of supervisors with positive and negative effect will be shortly repeated and discussed here. There are only two examples of supervisory behaviour where the effect of supervision has been experienced by students as either very positive or very negative. In this study there are however, various other examples available where positive or negative effects belong to a combination of attributes that characterize the supervisory behaviour. In addition, there are always students whose personal expectations of supervisors do not agree with the expectations of the majority of students.

A supervisor with a very positive effect on student teachers is likely to have non-authoritarian attitudes to student teachers in general and neutral (not very sympathetic or unsympathetic) attitudes to individual students. This means that the general atmosphere of supervision is relatively free, flexible and democratic, and the supervisor is not emotionally involved in the problems of individual student teachers. The supervisor is stable in his role behaviour (clear instructions, confident in making comments, relevant and impartial in his evaluations), and he takes his work quite seriously. This means that the be-

haviour is quite clear and consistent, and the student teacher can safely concentrate on his own activities and experiences during the student teaching and get relevant advice and help from the supervisor.

A supervisor with a very negative effect of supervision has, as above with a positive effect, quite non-authoritarian general attitudes, but his attitudes to individual student teachers are unsympathetic or indifferent. Although the general athmosphere is free, the supervisor is unwilling or unable to deal with student teachers as individuals. His role behaviour is unstable (unclear instructions, unsure in making comments, irrelevant and biassed evaluations). He takes his work superficially and is fairly easy-going. In this situation the student teacher cannot predict the supervisor's behaviour well enough to co-operate effectively in supervisor-student interaction.

This study indicates that the supervisor who has not found his own role identity usually has difficulties in communicating with student teachers. If the supervisor is unsure of his role, he is likely to seek a traditional or an undefined ideal role which does not necessarily suit him. This can help the supervisor to cope somehow with the role of supervisor, but the main task of supervision, helping student teachers may remain secondary. If the supervisor is very dominant in interaction with student teachers the student teacher is likely to pay more attention to the supervisor and to react according to him rather than to concentrate his attention on his own personal development.

The type of the behaviour of supervisors experienced by students as most successful was characterized in this study as that of a senior colleague rather than an authority or a friend. This means that the supervisor should feel himself to be primarily a teacher, who considers the student teacher as a junior colleague. Results of a study of atti-

tudes to teaching in medical general practice (Kontiainen & Cox 1973) support this finding. Comparing the attitudes of trained trainers, untrained trainers and trainees, the trained trainers achieved a better combination of teacher and colleague in the role of trainer than the untrained trainers, and they were more willing to accept the role of trainee as both student and colleague, i.e. as a junior colleague under training.

An interesting question is how to train supervisors. There has been little training, if any, for supervisors before they start their work as supervisors. The analyses of the behaviour of supervisors in this study emphasize the need to set out objectives for supervision, and the need for training supervisors to help them to get more insight into their behaviour in student teacher-supervisor interactions. Recent discussions and analyses of educational objectives (Bloom et al. 1971; Kansanen 1971; Beard 1972) and of objectives for teacher training (Cope 1971; Cox & Kontiainen 1973) have stressed the importance of thinking objectives as an essential part of teaching and learning processes. However very little is known about how, for instance, the behavioural objectives could be achieved or how to change behaviour.

In this study there is quite a lot of information available about the behaviour of supervisors and about how different types of behaviour are experienced by student teachers. This probably tells us something about the behaviour, but does not give any direct or clear suggestions as to what should be done if the supervision is experienced by students as negative. This kind of knowledge would be of great value when defining and working through behavioural objectives for training the supervisors.

The results of the study indicate that in trying to change behaviour, it is unrealistic to think that all characteristics of the behaviour should be changed, and even more unrealistic to try to change behaviour if the probable consequences of these attempts are not sufficiently known. Analyses of the behaviour of supervisors in Chapter IV show that if the supervisor can change only one characteristic in his behaviour, the whole dynamic structure of his behaviour is likely to change. For instance, if an authoritarian supervisor becomes less authoritarian, the relationships between the attributes of the behaviour and the meaning of the other attributes, too, will be different before and after the change.

The supervisor should first know how his present behaviour is experienced by student teachers. This includes assessments of the behaviour by student teachers. When the supervisor is more aware of his behaviour in relationships with students, he should have a proper guidance and training for changing his behaviour if needed. In future studies of the behaviour of supervisors my main interest will be in analyzing the ways of changing behaviour on the basis of knowledge of relationships between the attributes of the behaviour of supervisors given in this study.

VI SUMMARY

The study was intended to analyze the behaviour of supervisors in supervisor-student relationships as experienced by student teachers. Supervisors, 32 college lecturers of two Finnish teachers' colleges, were assessed by 189 student teachers; 95 female and 94 male students. The study is part of a wider research project on teacher training, the Helsinki-Turku Project.

A questionnaire of 20 variables was developed. Altogether 1528 individual supervisor-student relationships were included in the study. The structure of the behaviour of supervisors was studied by factor analyses, which gave five factors: supervisor's general attitudes to student teachers, role stability, style of working, effect of supervision and supervisor's attitudes to individual student teachers. Control analyses with coefficients of congruence between the factors of the common analysis and the factors of four subgroups, female and male students in the two colleges, showed that the students had understood the concepts used in the questionnaire very uniformly. Further analyses were decided upon on the basis of the common analysis.

A method of interpreting behaviour was developed, and the relationships between the concepts derived from the factor analysis were analyzed and defined for interpretations of the behaviour of supervisors. The most general types of the behaviour were interpreted, but the same method can also be used to analyze the behaviour of individual supervisors and individual supervisor-student relationships.

The study gave primarily diagnostic knowledge about the behaviour of supervisors, and emphasized the need to continue analyses to find out how the behaviour should be changed to achieve better results in supervision.

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APPENDICES

Appendix 1

Name .....

College .....

HOW TO FILL IN THE QUESTIONNAIRE:

In the process of becoming a teacher, the kind of supervision the student teacher receives is of great importance. Since supervisors may vary greatly student teachers could hardly characterize an average supervisor or evaluate supervisors in general. So we are asking you in this questionnaire to evaluate individual college lecturers in their work as supervisors.

Only evaluate the work of those supervisors who have guided your student teaching. The evaluation is always the same, containing 20 items. Please, remember to write at the top of every page the subject of the supervisor you are then dealing with. The evaluation is done according to the following example:

Subject: X

A		B
happy	1 2 3 4 5 6 7	sad

Circle for each pair of characteristics (here: happy - sad) the number which best characterizes the particular supervisor;

- if you think A (happy) completely applies, mark A (1) 2 3 4 5 6 7 B
- if you think B (sad) completely applies, mark A 1 2 3 4 5 6 (7) B
- if you think A or B applies rather well, mark A 1 (2) 3 4 5 6 7 or 1 2 3 4 5 (6) 7 B
- if you are only slightly in favour of A or B, mark A 1 2 (3) 4 5 6 7 or 1 2 3 4 (5) 6 7 B
- if you cannot say which alternative would be better, mark A 1 2 3 (4) 5 6 7 B

Please, mark your evaluations as distinctly as possible, and mark only one number on each item. Make a final check that you have answered all the items.

All the information is confidential and will be used only by the researchers.

Appendix 1 (cont.)

Subject: .....

	A		B
1.	non-authoritarian, democratic, believes in consultation and co-operation	1 2 3 4 5 6 7	authoritarian, domineering
2.	interested in student teachers as individuals	1 2 3 4 5 6 7	impersonal, indifferent
3.	does not take his work seriously	1 2 3 4 5 6 7	is conscientious in his work
4.	absolutely unbiased in his evaluation	1 2 3 4 5 6 7	obviously biased
5.	has an inflexible approach to the teaching situation, disapproves of all teaching styles other than his own	1 2 3 4 5 6 7	approves of personal differences in different people's teaching style
6.	looks for good points in student teachers' lessons	1 2 3 4 5 6 7	bases his evaluation on the mistakes discovered
7.	is satisfied with general plans for lessons	1 2 3 4 5 6 7	demands detailed plans for lessons
8.	gives consistent advice	1 2 3 4 5 6 7	is inconsistent in his advice
9.	very particular	1 2 3 4 5 6 7	very easy-going
10.	appreciates independent opinions even if different from his own	1 2 3 4 5 6 7	is likely to penalise student teachers who have opinions different from his own
11.	sympathetic	1 2 3 4 5 6 7	unsympathetic, cold
12.	unsure: it is difficult for him to take a stand on issues	1 2 3 4 5 6 7	confident, takes a clear stand on issues
13.	encourages independent decisions	1 2 3 4 5 6 7	over-protective, restrictive of independency
14.	restricts himself to the material to be taught and to techniques for presenting it	1 2 3 4 5 6 7	emphasises general educational aspects of teacher's work
15.	evaluations after teaching practice are relevant and constructive	1 2 3 4 5 6 7	irrelevant and vague evaluations
16.	supervision did not affect my style of teaching	1 2 3 4 5 6 7	supervision helped me to find my own style of teaching
17.	supervision made me see my own mistakes and avoid them	1 2 3 4 5 6 7	supervision did not increase my self-knowledge
18.	supervision made me feel insecure	1 2 3 4 5 6 7	supervision increased my self-confidence

19.	instruction prior to teaching practice helped me to see various alternatives and to select ways of working which fit each situation	1 2 3 4 5 6 7	instruction prior to teaching practice was limited to general instructions or small details
20.	I am interested in the subject he teaches	1 2 3 4 5 6 7	I dislike the subject

Appendix 2.

Group Means and Standard Deviations of Estimates of Twenty Variables of the Behaviour of Supervisors

	College A women		College A men		College B women		College B men		Total	
Variable	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
01	2.9	2.0	3.1	2.2	3.0	2.0	3.0	2.0	3.0	2.0
02	3.5	2.0	3.1	1.9	3.3	2.0	3.3	1.9	3.3	2.0
03	5.8	1.5	5.9	1.5	5.3	1.7	5.5	1.7	5.6	1.6
04	3.3	1.8	3.3	1.7	3.7	1.8	3.7	1.9	3.5	1.8
05	4.7	2.1	4.5	2.1	4.6	2.1	4.5	2.0	4.6	2.1
06	3.2	1.9	3.3	2.1	3.0	1.8	3.2	1.8	3.2	1.9
07	4.3	2.3	3.9	2.2	4.3	2.3	4.0	2.1	4.1	2.2
08	2.8	1.9	2.6	1.8	3.7	2.1	2.8	1.8	3.0	1.9
09	3.4	2.0	3.2	1.9	3.9	2.1	3.5	1.8	3.5	2.0
10	2.9	1.7	3.0	1.8	3.2	1.9	3.3	1.9	3.1	1.8
11	2.5	1.6	2.6	1.5	2.6	1.6	2.8	1.6	2.6	1.6
12	5.1	1.7	5.3	1.8	4.5	1.9	5.0	1.7	5.0	1.8
13	3.4	1.8	3.4	1.9	3.4	1.9	3.4	1.7	3.4	1.8
14	3.4	2.0	3.3	2.0	3.1	1.8	3.1	1.8	3.3	1.9
15	2.7	1.6	2.6	1.6	3.1	1.7	2.9	1.6	2.8	1.6
16	3.8	1.9	4.4	1.8	3.6	1.9	4.2	1.9	4.0	1.9
17	3.7	1.8	3.4	1.7	3.8	2.0	3.5	1.7	3.6	1.8
18	4.6	1.6	4.8	1.5	4.4	1.6	4.7	1.3	4.6	1.5
19	3.6	2.0	3.3	1.8	3.9	2.1	3.6	1.9	3.6	1.9
(20)	2.5	1.5	2.7	1.6	2.5	1.5	2.9	1.7	2.6	1.6

Number of estimates for each variable:

College A, women	447
College A, men	404
College B, women	342
College B, men	335
Total	1528

Appendix 3a.

Correlation Matrix of Twenty Research Variables
(Entire Material)

Variable	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20
01																				
02	51																			
03	-04	-25																		
04	42	31	-21																	
05	-57	-33	01	-39																
06	43	33	-03	39	-40															
07	20	05	26	07	-15	20														
08	30	29	-27	48	-29	32	00													
09	-33	-09	-34	-08	38	-24	-52	11												
10	58	40	-05	43	-62	41	20	32	-33											
11	55	51	-18	49	-46	46	17	46	-19	52										
12	03	-09	25	-23	00	-08	08	-41	-19	06	-12									
13	58	40	03	37	-63	44	27	23	-40	67	48	05								
14	-28	-24	06	-22	37	-25	-13	-13	27	-34	-26	04	-35							
15	43	39	-25	53	-42	46	04	58	-09	43	56	-29	41	-25						
16	-22	-33	26	-29	22	-25	04	-41	-03	-26	-33	26	-25	18	-43					
17	24	30	-23	38	-23	28	-02	43	05	28	35	-24	24	-15	48	-53				
18	-38	-34	12	-39	42	39	-10	-41	15	-42	-43	20	-42	24	-51	50	-46			
19	29	31	-31	36	-29	27	-09	49	07	33	39	-25	29	-17	44	-40	42	-42		
20	17	19	-08	15	-11	13	01	09	-03	17	22	-06	17	-08	15	-15	18	-29	17	

Appendix 3b.

Correlation Matrix of Twenty Research Variables
(College A, women)

Variable	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20
01																				
02	51																			
03	11	-19																		
04	46	28	-06																	
05	-53	-29	-09	-41																
06	54	33	06	44	-45															
07	29	-05	45	11	-19	22														
08	51	35	-11	54	-44	50	02													
09	-36	-05	-48	-12	38	-29	-62	-07												
10	56	36	08	35	-62	47	20	43	-34											
11	61	46	01	52	-47	56	20	56	-21	49										
12	-03	-07	19	-13	10	-09	16	-29	-13	-10	-02									
13	55	37	12	38	-58	45	31	36	-38	65	47	-01								
14	-17	-18	01	-17	34	-26	-17	-09	27	-29	-19	00	-29							
15	55	42	-08	54	-46	55	04	64	-18	44	60	-21	43	-21						
16	-29	-32	19	-30	26	-34	06	-37	00	-24	-34	22	-34	16	-45					
17	34	30	-08	36	-25	36	-01	40	-05	29	33	-18	29	-12	46	-50				
18	-47	-37	06	-40	39	-49	-07	-43	18	-42	-46	11	-47	19	-57	47	-49			
19	26	30	-21	33	-29	35	-20	49	07	29	37	-23	29	-10	44	-40	45	-39		
20	10	16	-20	15	-07	10	-13	10	06	13	12	-10	13	-13	15	-15	18	-33	22	

Appendix 3c.

Correlation Matrix of Twenty Research Variables
College A, men

Variable	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20
01																				
02	53																			
03	01	-20																		
04	38	35	-05																	
05	-59	-31	-07	-28																
06	43	35	05	41	-38															
07	11	09	11	23	-07	24														
08	23	32	-14	41	-22	29	29													
09	-32	-10	-25	-10	41	-16	-29	04												
10	62	43	05	43	-60	43	13	32	-31											
11	47	54	-08	40	-38	40	25	49	-20	49										
12	04	-20	26	-21	-02	-11	-22	-57	-11	-12	-24									
13	58	41	12	33	-64	46	12	22	-35	66	48	05								
14	-35	-31	04	-11	39	-23	-06	-14	28	-38	-24	07	-33							
15	39	44	-09	44	-37	48	22	57	-16	44	60	-39	44	-21						
16	-19	-35	17	-36	19	-23	-16	-41	05	-31	-37	34	-23	21	-43					
17	27	36	-14	46	-22	40	20	47	-01	32	41	-32	25	-17	50	-58				
18	-34	-33	03	-42	42	-38	-26	-48	16	-47	-45	33	-40	27	-48	53	-45			
19	30	30	-11	30	-25	28	08	50	01	34	38	-28	31	-20	41	-35	42	-49		
20	18	25	-05	27	-18	20	11	24	-06	26	40	-20	27	-10	26	-21	25	-31	20	

Appendix 3d.

Correlation Matrix of Twenty Research Variables
(College B, women)

Variable	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20
01																				
02	50																			
03	-04	-21																		
04	36	30	-37																	
05	-57	-37	04	-33																
06	41	33	-15	38	-47															
07	37	25	21	-01	-25	29														
08	10	16	-39	48	-19	26	-19													
09	-46	-26	-29	01	38	-31	-74	30												
10	51	42	-11	35	-61	43	33	15	-40											
11	50	51	-29	56	-48	51	25	32	-28	52										
12	-04	-07	24	-40	-02	-13	14	-40	-21	-09	-17									
13	61	42	-06	32	-66	48	42	10	-52	67	53	04								
14	-35	-24	08	-35	40	-35	-25	-18	28	-37	-37	08	-45							
15	25	25	-47	53	-30	39	-09	53	06	27	47	-36	30	-31						
16	-09	-19	34	-24	15	-21	15	-37	-13	-19	-24	20	-15	10	-39					
17	04	17	-46	37	-14	11	-21	41	22	14	30	-26	09	-12	53	-55				
18	-35	-28	15	-41	46	-34	-13	-34	18	-41	-42	11	-42	29	-50	44	-42			
19	19	24	-44	35	-21	23	-14	46	14	24	35	-27	19	-21	38	-37	39	-39		
20	16	13	-03	00	-11	03	11	00	-10	11	17	06	10	04	-02	-06	10	-20	10	

Appendix 3e.

Correlation Matrix of Twenty Research Variables
(College B, men)

Variable	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20
01																				
02	55																			
03	-29	-45																		
04	47	35	-33																	
05	-63	-35	19	-55																
06	30	30	-18	33	-31															
07	02	-11	30	-08	-12	05														
08	36	39	-41	48	-34	27	-23													
09	-19	04	-29	-15	33	-16	-48	13												
10	65	43	-20	57	-69	31	12	41	-29											
11	62	59	-39	47	-50	36	-04	50	-07	58										
12	17	-01	23	-13	-11	-02	28	-32	-27	11	-01									
13	57	39	-11	49	-68	36	19	26	-35	72	44	08								
14	-28	-26	08	-29	36	-17	-04	-10	29	-36	-28	-09	-40							
15	52	48	-36	59	-55	42	-08	53	-12	57	55	-19	50	-26						
16	-36	-47	29	-26	28	-26	14	-43	00	-35	-40	16	-32	25	-46					
17	31	39	-24	37	-33	24	-16	43	01	38	40	-19	34	-19	41	-46				
18	-39	-40	21	-33	41	-31	09	-36	08	-41	-39	08	-42	20	-47	52	-45			
19	45	42	-45	44	-41	21	-14	50	-03	48	46	-17	40	-20	53	-45	40	-44		
20	22	23	-04	15	-10	14	-04	06	-02	14	16	-04	17	-12	18	-23	21	-38	15	

Appendix 4a.

Unrotated Factor Matrix (Entire Material)

Variable	I	II	III	IV	V	VI	h^2
01	69	28	20	08	-13	06	61
02	59	-03	25	-02	-34	-13	54
03	-22	49	-22	-04	06	16	37
04	64	-12	-04	23	07	06	49
05	-67	-32	-15	03	-25	-02	64
06	59	13	-09	09	-07	08	40
07	18	51	-43	10	-17	-09	53
08	61	-39	-15	22	08	03	60
09	-26	-67	22	05	01	08	57
10	72	27	15	00	15	01	64
11	73	03	06	16	-19	02	60
12	-23	45	23	-17	-13	20	40
13	69	39	12	-09	10	04	66
14	-41	-19	-05	11	-13	34	34
15	73	-21	-09	10	01	04	60
16	-53	34	15	34	08	03	55
17	55	-34	-17	-23	-06	10	52
18	-65	09	16	21	-03	-07	52
19	56	-33	05	-07	07	02	43
Eigen-values	6.2	2.2	0.6	0.4	0.4	0.3	10.1
%	32.6	11.6	3.2	2.1	2.1	1.6	53.2

Appendix 4b.

Unrotated Factor Matrix (College A, women)

Variable	1	2	3	4	5	6	h^2
01	75	-18	02	19	16	07	61
02	54	17	-22	15	33	-03	51
03	00	-63	23	-07	-04	17	48
04	64	09	18	16	-11	-13	54
05	-69	20	24	-03	25	-02	62
06	70	-07	11	01	-01	-11	56
07	22	-71	21	-06	05	-08	61
08	70	23	20	19	-21	05	64
09	-34	69	-06	15	03	05	61
10	70	-20	-30	04	-13	17	65
11	74	-02	09	24	12	-06	61
12	-17	-33	-03	10	30	-01	28
13	70	-26	-24	-08	04	15	65
14	-32	16	27	17	08	34	34
15	77	17	15	05	-02	-08	64
16	-53	-32	-04	33	-08	02	50
17	55	26	17	-31	11	08	50
18	-67	-13	-04	22	-13	-02	56
19	52	39	01	-09	-08	11	49
Eigen-values	6.4	2.1	0.6	0.5	0.4	0.3	10.3
%	33.7	11.1	3.1	2.6	2.1	1.6	54.2

Appendix 4c.

Unrotated Factor Matrix (College A, men)

Variable	1	2	3	4	5	6	h^2
01	65	-40	18	08	09	01	61
02	62	00	33	14	17	-19	53
03	-08	-35	-39	-10	-04	08	27
04	59	10	-07	-10	21	10	45
05	-62	47	-02	02	18	-06	64
06	59	-10	-09	-05	22	11	47
07	29	08	-46	11	11	-12	30
08	62	44	-12	18	-13	11	59
09	-29	47	33	-07	05	24	41
10	72	-31	07	01	-08	09	66
11	72	04	02	20	14	-03	60
12	-36	-60	10	-25	17	04	59
13	67	-44	04	-02	-02	13	66
14	-42	24	-12	-02	23	28	39
15	73	18	-06	12	08	05	60
16	-58	-33	-02	34	04	22	60
17	62	34	-01	-29	10	-07	60
18	-68	-11	13	16	14	-05	51
19	55	22	11	-07	-23	17	49
Eigen-values	6.3	2.0	0.7	0.4	0.4	0.3	10.1
%	33.2	10.5	3.7	2.1	2.1	1.6	53.2

Appendix 4d.

Unrotated Factor Matrix (College B, women)

Variable	1	2	3	4	5	6	h^2
01	65	-35	-08	-13	-16	-05	62
02	56	-14	-02	-04	-42	00	51
03	-34	-50	01	-04	21	-17	44
04	64	27	-31	01	05	-01	56
05	-69	28	-11	29	-15	02	66
06	62	-13	-12	06	10	00	51
07	28	-70	-05	42	-03	-03	74
08	46	53	-15	02	11	-08	53
09	-3	77	-06	-25	-02	-01	74
10	70	-30	07	-17	-01	-16	67
11	75	-04	-12	02	-13	06	56
12	-25	-41	33	-14	-03	22	40
13	71	-40	10	-14	05	03	67
14	-52	14	12	-01	-21	-26	45
15	63	40	-05	10	12	08	53
16	-42	-43	-41	-15	03	08	55
17	43	54	26	14	-03	05	55
18	-64	-11	-26	-07	-16	07	50
19	49	39	05	-04	-08	02	46
Eigen-values	5.8	3.1	0.6	0.5	0.4	0.2	10.6
%	30.5	16.3	3.1	2.6	2.1	1.1	55.7

Appendix 4e.

Unrotated Factor Matrix (College B, men)

Variable	1	2	3	4	5	6	h^2
01	74	-18	-29	11	-04	09	65
02	66	16	-21	32	08	-08	58
03	-44	-46	25	03	-05	07	45
04	68	-01	-01	-36	01	-11	59
05	-73	34	05	15	13	-04	69
06	46	-06	11	01	39	-11	42
07	-06	-62	07	05	22	15	48
08	61	38	05	-18	08	09	53
09	-17	67	-19	01	-07	05	48
10	78	-30	-08	-10	-11	-09	71
11	74	04	-23	08	14	01	62
12	-08	-49	-26	21	-04	03	32
13	71	-40	06	-05	-10	-00	71
14	-40	24	-08	-08	15	38	39
15	77	08	08	-13	12	-01	59
16	-58	-24	-26	-30	03	00	52
17	57	20	23	09	-08	04	46
18	-61	-09	-30	-20	05	-12	52
19	66	20	02	-03	-10	11	53
Eigenvalues	6.7	2.1	0.6	0.5	0.3	0.3	10.5
%	35.3	11.1	3.1	2.6	1.6	1.6	55.3

Appendix 5a.

Varimax-rotated Factor Matrix (Entire Material)

Variable	I	II	III	IV	V	h^2
01	60	-11	-13	-10	-46	61
02	32	-09	08	-25	-58	52
03	03	25	-45	18	[illegible]	34
04	37	-51	00	-16	-24	48
05	-77	13	10	11	10	64
06	39	-27	-22	-19	-28	39
07	13	-02	-70	01	-10	52
08	19	-67	10	-29	-17	60
09	-41	-15	61	-02	03	57
10	72	-17	-10	-14	-20	64
11	43	-34	-09	-20	-50	60
12	09	54	-13	20	-06	36
13	74	-05	-19	-17	-21	66
14	-44	04	08	15	04	23
15	36	-52	01	-35	-27	60
16	-14	22	-09	67	13	55
17	15	-31	07	-60	-14	51
18	-38	27	08	53	13	51
19	28	-36	22	-39	-15	43
Eigen-values	3.4	2.0	1.3	1.8	1.3	9.8
%	18.0	10.5	6.8	9.5	6.8	51.6

Appendix 5b.

Varimax-rotated Factor Matrix (College A, women)

Variable	1	2	3	4	h^2
01	65	-20	-38	-14	63
02	43	21	-37	-14	39
03	-02	-65	00	13	45
04	61	-03	-13	-26	46
05	-42	15	59	14	57
06	54	-19	-29	-32	51
07	12	-74	-15	08	60
08	71	08	10	-34	63
09	-12	70	34	01	63
10	42	-12	-64	12	62
11	71	-08	-28	-18	62
12	-09	-23	-01	29	14
13	36	-22	-63	-20	62
14	-04	10	45	12	23
15	64	01	-22	-43	65
16	-21	-13	20	63	50
17	27	02	-13	-63	49
18	-37	04	31	53	52
19	36	26	-16	-46	43
Eigen-values	3.6	1.8	2.2	2.0	9.6
%	18.9	9.5	11.6	10.5	50.5

Appendix 5c.

Varimax-rotated Factor Matrix (College A, men)

Variable	1	2	3	4	5	h^2
01	13	-71	00	00	34	63
02	21	-46	29	18	41	53
03	-08	-06	-49	-18	-09	29
04	45	-23	-06	18	37	42
05	-15	76	19	-02	-06	63
06	33	-36	-15	09	39	42
07	14	00	-40	30	25	32
08	37	-16	04	67	16	64
09	06	41	49	02	-09	42
10	25	-71	-08	12	19	63
11	25	-44	02	37	44	58
12	-23	-08	-12	-71	-06	59
13	20	-73	-16	00	22	65
14	-18	52	-01	-09	05	30
15	38	-34	-02	45	37	59
16	-69	15	-09	-23	-08	56
17	69	-13	07	24	23	60
18	-53	37	12	-31	-08	53
19	41	-32	15	36	-03	43
Eigen-values	2.3	3.6	0.9	1.9	1.8	9.9
%	12.1	19.0	4.7	10.0	6.3	52.1

Appendix 5d.

Varimax-rotated Factor Matrix (College B, women)

Variable	1	2	3	4	5	h^2
01	68	09	00	18	-30	59
02	43	11	15	13	-52	51
03	01	-38	-42	18	26	42
04	38	62	20	-03	-11	58
05	-81	-02	-14	00	00	67
06	53	29	12	21	-04	43
07	35	-12	-17	76	-08	74
08	13	58	37	-19	02	53
09	-49	24	16	-66	04	77
10	73	06	14	11	-15	59
11	56	36	22	16	-29	60
12	05	-58	-14	05	03	36
13	80	00	11	20	-10	70
14	-50	-25	-06	-16	-09	35
15	29	53	46	-02	00	58
16	-03	-12	-72	05	04	55
17	04	28	68	-10	-06	56
18	-46	-16	-52	-09	-07	52
19	21	34	43	-16	-16	40
Eigenvalues	4.2	2.1	2.2	1.3	0.6	10.4
%	22.1	11.1	11.6	6.8	3.1	54.7

Varimax-rotated Factor Matrix (College B, men)

Variable	1	2	3	4	h^2
01	58	-08	24	52	67
02	31	18	43	54	60
03	-29	-52	-17	-28	46
04	74	12	19	01	60
05	-73	23	-23	-19	67
06	35	-05	31	08	23
07	05	-62	-09	-02	40
08	49	43	36	04	55
09	-26	66	-07	06	51
10	73	-19	28	26	71
11	54	12	31	45	61
12	-04	-47	+20	32	36
13	65	-33	32	17	67
14	-30	24	-26	-13	23
15	64	14	42	11	62
16	-19	-15	-69	-15	55
17	31	16	54	05	42
18	-29	-02	-64	-08	50
19	48	24	40	17	48
Eigen-values	4.2	1.9	2.5	1.2	9.8
%	22.1	10.0	13.2	6.3	51.6

Appendix 6.

Coefficients of Congruence between Subgroup Factors and Factors of Shared Analysis (as absolute values)

Shared analysis	College A women				College A men					College B women					College B men			
factors	1	2	3	4	1	2	3	4	5	1	2	3	4	5	1	2	3	4
I	84	36	**98**	58	62	**99**	32	40	73	**99**	42	45	42	50	**94**	28	72	69
II	80	22	41	82	82	44	20	**92**	66	44	**96**	78	14	37	72	53	75	32
III	17	**98**	38	11	01	32	**91**	05	29	46	30	31	**94**	03	15	**88**	04	01
IV	71	15	57	**98**	**97**	56	16	72	59	51	69	**96**	03	39	68	33	**97**	48
V	**86**	01	69	59	64	73	16	53	**91**	73	58	55	25	**88**	78	15	73	**90**

Appendix 7.

Factor Loadings in Factors (I - V) of Shared Analysis and in Corresponding Factors of Sub-group Analyses

FACTOR I

variable	shared analysis	College A women	College A men	College B women	College B men
	FI	f3	f2	f1	f1
05	-77	-59	-76	-81	-73
13	74	63	73	80	65
10	73	64	71	73	73
01	60	38	71	68	58
14	-44	-45	-52	-50	-30
11	43	27	44	56	54
09	-41	-34	-41	-49	-26
06	39	29	36	53	35
combined factors:		-	-	-	FI + FII
extra loadings in variables:					
02	(32)	-	46	43	-
18	(-38)	-	-	-46	-

FACTOR II

variable	shared analysis	College A women	College A men	College B women	College B men
	FII	f1	f4	f2	f1
08	-67	-71	-67	-58	-49
12	54	09	71	58	04
15	-52	-64	-45	-53	-64
04	-51	-61	-18	-62	-74
combined factors:		FII + FV	-	-	FI + FII
extra loadings in variables:					
05	(13)	42	-	-	-
19	(-36)	-	-	-	-46

FACTOR III

variable	shared analysis	College A women	College A men	College B women	College B men
	FIII	f2	f3	f4	f2
07	-70	-74	-40	-76	-62
09	61	70	49	66	66
03	-45	-65	-49	-18	-52
combined factors:		-	-	-	-
extra loadings in variables:					
08	(10)	-	-	-	43
12	(-13)	-	-	-	-47

FACTOR IV

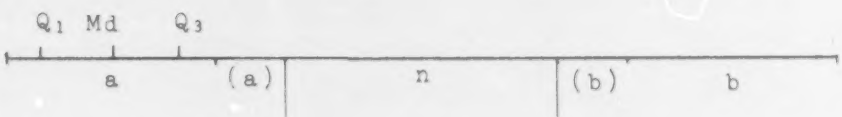
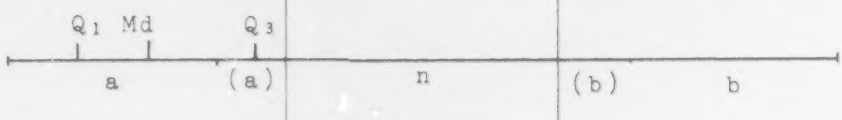
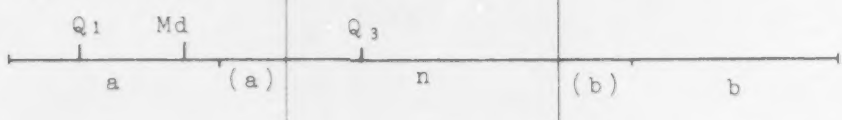
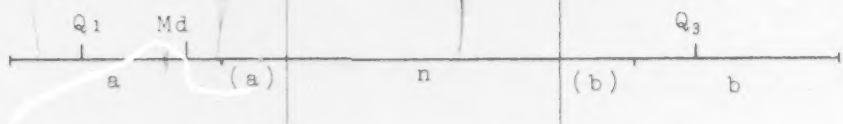
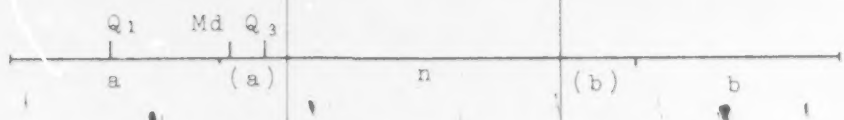
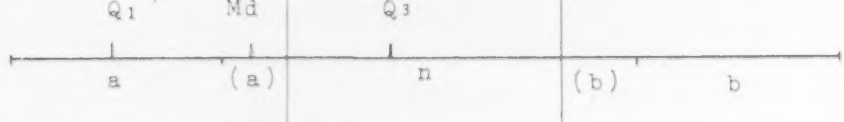
variable	shared analysis	College A women	College A men	College B women	College B men
	FIV	f4	f1	f3	f3
16	67	63	69	72	69
17	-60	-63	-69	-68	-54
18	53	53	53	52	64
19	-39	-46	-41	-42	-40
combined factors:		-	-	-	-
extra loadings in variables:					
02	(-25)	-	-	-	-43
03	(21)	-	-	42	-
04	(-24)	-	-45	-	-
15	(-35)	-43	-	-	-

FACTOR V

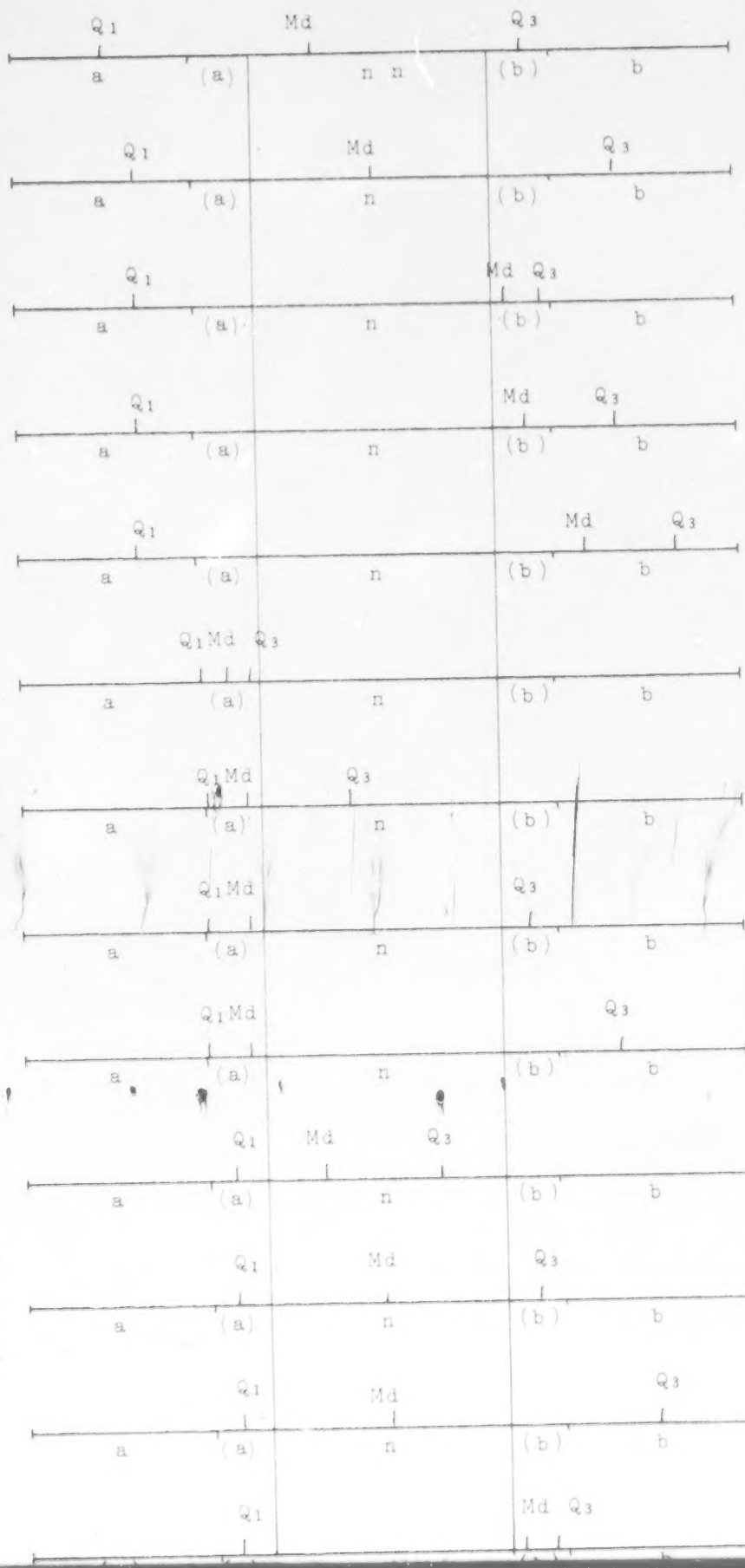
variable	shared analysis	College A women	College A men	College B women	College B men
	FV	f1	f5	f5	f4
02	-58	-43	-41	-52	-54
11	-50	-71	-44	-29	-45
01	-46	-65	-34	-30	-52
combined factors:		FII + FV	-	-	-
extra loadings in variables:					
06	(-28)	-54	-	-	-

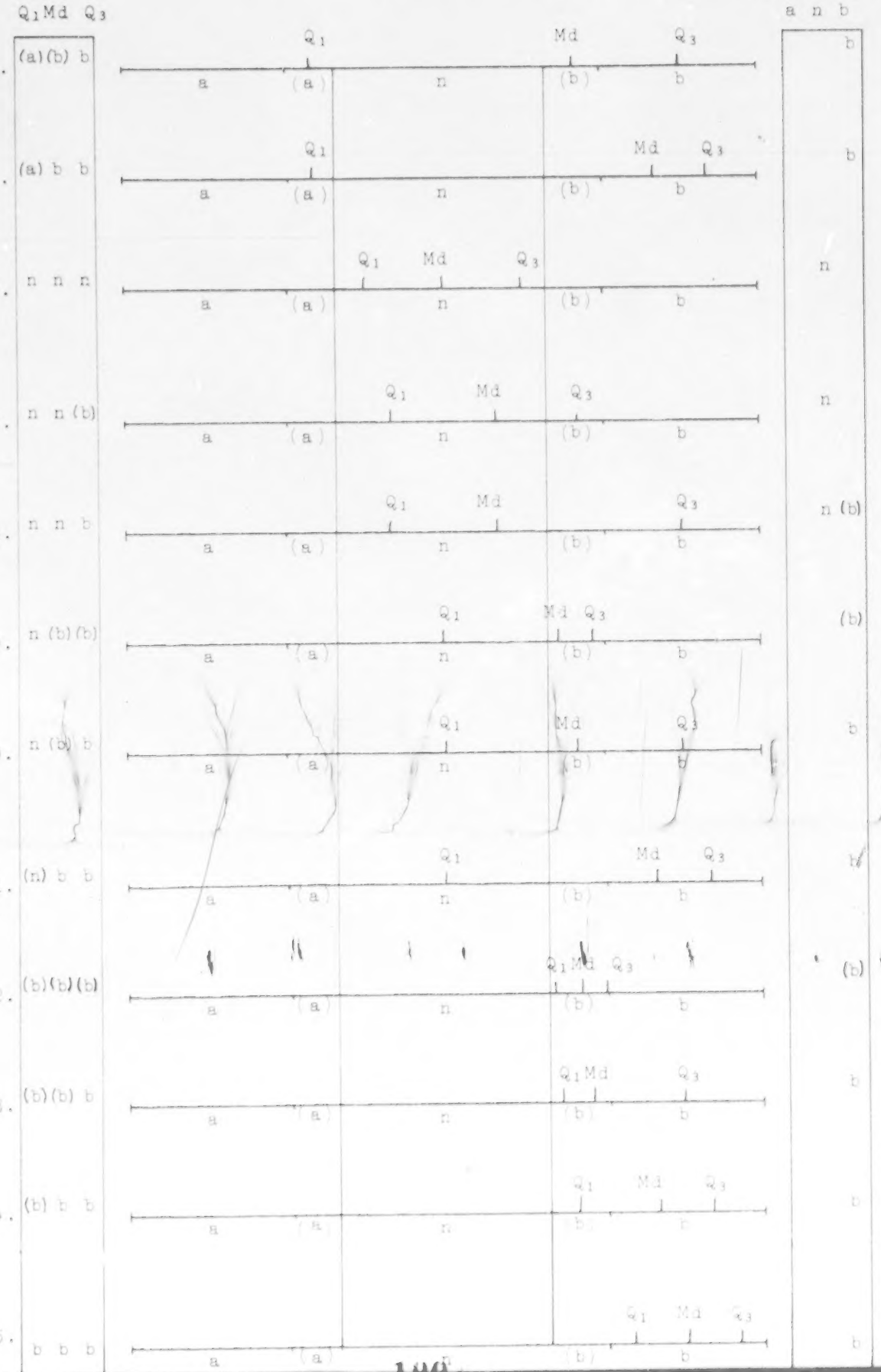
Appendix 8. Definition of Corresponding Attribute(s) among the Attributes 'a', 'n' and 'b' by Median and Quartiles of Factor Scores of a Sample

Median and quartile limits of estimates of a concept in a population

Attribute of a concept at Q_1 Md Q_3	Median and quartile limits of estimates of a concept in a sample	Corresponding attribute(s) a n b
1. a a a		a
2. a a (a)		a
3. a a n		a
4. a a (b)		a
5. a a b		a (b)
6. a (a) (a)		a
7. a (a) n		a
8. a (a) (b)		a
9. a (a) b		a (b)
10. a n n		(a) n

	Q_1 Md Q_3	Corresponding attribute(s) a n b
11.	a n (b)	(a) n
12.	a n b	(a) n (b)
13.	a (b) (b)	(a) (b)
14.	a (b) b	(a) b
15.	a b b	(a) b
* 16.	(a) (a) (a)	(a)
17.	(a) (a) n	(a)
18.	(a) (a) (b)	(a)
19.	(a) (a) b	(a) (b)
20.	(a) n n	n
21.	(a) n (b)	n
22.	(a) n b	n (b)
23.	(a) (b) (b)	(b)




Q1 Md Q3
Corresponding attribute(s)
a n b
24. (a)(b) b
25. (a) b b
26. n n n
27. n n (b)
28. n n b
29. n (b)(b)
30. n (b) b
31. (n) b b
32. (b)(b)(b)
33. (b)(b) b
34. (b) b b
35. b b b
Q1
Md
Q3
a
(a)
n
(b)
b

Appendix 9. Attributes of the Behaviour of Supervisors in Various Attribute Combinations. Summary of Results in Matrix 5.

1a Authoritarian

1a & Concept 2 (Supervisor's role stability)

	row*	Attribute combination C1	C2	C3	C4	C5	Dominant attribute in combination
1a & 2a stable	1	a	a	(b)	b	b	1a authoritarian
	4	a	a	(b)	n/(b)	n/(b)	2a stable
& 2n neutral	-	no case					-
& 2b unstable	1	a	b	(b)	b	b	1a authoritarian
	6	a	b	n	b	b	2b unstable
	8	(a)	b	n	n	a	3n neutral
	15	a	b	n/(b)	b	b	5b unsympathetic

1a & Concept 3 (Supervisor's style of working)

1a & 3a easy-going	-	no case					-
& 3n neutral	6	a	b	n	b	b	2b unstable
	8	(a)	b	n	n	a	3n neutral
	15	a	b	n	b	b	5b unsympathetic
& 3b serious	1	a	a/b	(b)	b	b	1a authoritarian
	4	a	a	(b)	n/(b)	n/(b)	2a stable
	15	a	b	(b)	b	b	5b unsympathetic

1a & Concept 4 (Effect of supervision)

1a & 4a positive	-	no case					-
& 4n neutral	4	a	a	(b)	n	n/(b)	2a stable
	8	(a)	b	n	n	a	3n neutral
& 4b negative	1	a	a/b	(b)	b	b	1a authoritarian
	4	a	a	(b)	(b)	n/(b)	2a unstable
	6	a	b	n	b	b	2b unstable
	15	a	b	n/(b)	b	b	5b unsympathetic

1a & Concept 5 (Attitudes to individual student teachers)

1a & 5a sympathetic	8	(a)	b	n	n	a	3n neutral
& 5n neutral	4	a	a	(b)	n/(b)	n	2a stable
& 5b unsympathetic	1	a	a/b	(b)	b	b	1a authoritarian
	4	a	a	(b)	n/(b)	(b)	2a stable
	6	a	b	n	b	b	2b unstable
	15	a	b	n/(b)	b	b	5b unsympathetic

*row in Matrix 5

1n Neutral general attitudes — Appendix 9. (cont.)

1n & Concept 2 (Supervisor's role stability)

	row	Attribute combination C1	C2	C3	C4	C5	Dominant attribute in combination
1n & 2a stable	9	n	(a)	b	n	a	3b serious
& 2n neutral	5	n	n	n/(b)	n	n	2n neutral
	11	n	n	n	n	n	4n neutral
	13	n	n	(b)	(a)/n	a	5a sympathetic
	14	n	n	b	a	n	5n neutral
& 2b unstable	2	n	(b)	n/(b)	n/(b)	n	1n neutral
	11	n	(b)	n	n	n	4n neutral
	12	n	b	(a)/n	b	b	4b negative

1n & Concept 3 (Supervisor's style of working)

1n & 3a easy-going	12	n	b	(a)	b	b	4b negative
& 3n neutral	2	n	(b)	n	n/(b)	n	1n neutral
	5	n	n	n	n	n	2n neutral
	11	n	n/(b)	n	n	n	4n neutral
	12	n	b	n	b	b	4b negative
& 3b serious	2	n	(b)	(b)	n/(b)	n	1n neutral
	5	n	n	(b)	n	n	2n neutral
	9	n	(a)	b	n	a	3b serious
	13	n	n	(b)	(a)/n	a	5a sympathetic
	14	n	n	b	a	n	5n neutral

1n & Concept 4 (Effect of supervision)

1n & 4a positive	13	n	n	(b)	(a)	a	5a sympathetic
	14	n	n	b	a	n	5n neutral
& 4n neutral	2	n	(b)	n/(b)	n	n	1n neutral
	5	n	n	n/(b)	n	n	2n neutral
	9	n	(a)	b	n	a	3b serious
	11	n	n/(b)	n	n	n	4n neutral
	13	n	n	(b)	n	a	5a sympathetic
& 4b negative	2	n	(b)	n/(b)	(b)	n	1n neutral
	12	n	b	(a)/n	b	b	4b negative

1n & Concept 5 (Attitudes to individual students)

1n & 5a sympathetic	9	n	(a)	b	n	a	3b serious
	13	n	n	(b)	(a)/n	a	5a sympathetic
& 5n neutral	2	n	(b)	n/(b)	n/(b)	n	1n neutral
	5	n	n	n/(b)	n	n	2n neutral
	11	n	n/(b)	n	n	n	4n neutral
	14	n	n	b	a	n	5n neutral
& 5b unsympathetic	12	n	b	(a)/n	b	b	4b negative

1b Non-authoritarian

Appendix 9. (cont.)

1b & Concept 2 (Role stability)

	row	Attribute combination C1	C2	C3	C4	C5	Dominant attribute in combination
1b & 2a stable	10	b	a	n/(b)	a	n	4a positive
& 2n neutral	3	b	n	n	(a)/n	a	1b non-authoritarian
	7	b	n	a	n/(b)	b	3a easy-going
& 2b unstable	7	b	(b)	a	n/(b)	b	3a easy-going
	8	(b)	b	n	n	a	3n neutral
	12	(b)	b	(a)/n	b	b	4b negative

1b & Concept 3 (Style of working)

1b & 3a easy-going	7	b	n/(b)	a	n/(b)	b	3a easy-going
	12	(b)	b	(a)	b	b	4b negative
& 3n neutral	3	b	n	n	(a)/n	a	1b non-authoritarian
	8	(b)	b	n	n	a	3n neutral
	10	b	a	n	a	n	4a positive
	12	(b)	b	n	b	b	4b negative
& 3b serious	10	b	a	(b)	a	n	4a positive

1b & Concept 4 (Effect of supervision)

1b & 4a positive	3	b	n	n	(a)	a	1b non-authoritarian
	10	b	a	n/(b)	a	n	4a positive
& 4n neutral	3	b	n	n	n	a	1b non-authoritarian
	7	b	n/(b)	a	n	b	3a easy-going
	8	(b)	b	n	n	a	3n neutral
& 4b negative	7	b	n/(b)	a	(b)	b	3a easy-going
	12	(b)	b	(a)/n	b	b	4b negative

1b & Concept 5 (Attitudes to individual students)

1b & 5a sympathetic	3	b	n	n	(a)/n	a	1b non-authoritarian
	8	(b)	b	n	n	a	3n neutral
& 5n neutral	10	b	a	n/(b)	a	n	4a positive
& 5b unsympathetic	7	b	n/(b)	a	n/(b)	b	3a easy-going
	12	(b)	b	(a)/n	b	b	4b negative

2a Stable role

Appendix 9. (cont.)

2a & Concept 1 (General attitudes)

	row	Attribute combination C1	C2	C3	C4	C5	Dominant attribute in combination
2a & 1a authoritarian	1	a	a	(b)	b	b	1a authoritarian
	4	a	a	(b)	n/(b)	n/(b)	2a stable
& 1n neutral	9	n	(a)	b	n	a	3b serious
& 1b non-authoritarian	10	b	a	n/b	a	n	4a positive

2a & Concept 3 (Style of working)

2a & 3a easy-going	-	no case					-
& 3n neutral	10	b	a	n	a	n	4a positive
& 3b serious	1	a	a	(b)	b	b	1a authoritarian
	4	a	a	(b)	n/(b)	n/(b)	2a stable
	9	n	(a)	b	n	a	3b serious

2a & Concept 4 (Effect of supervision)

2a & 4a positive	10	b	a	n/(b)	a	n	4a positive
& 4n neutral	4	a	a	(b)	n	n/(b)	2a stable
	9	n	(a)	b	n	a	3b serious
& 4b negative	1	a	a	(b)	b	b	1a authoritarian
	4	a	a	(b)	(b)	n/(b)	2a stable

2a & Concept 5 (Attitudes to individual students)

2a & 5a sympathetic	9	n	(a)	b	n	a	3b serious
& 5n neutral	4	a	a	(b)	n/(b)	n	2a stable
	10	b	a	n/(b)	a	n	4a positive
& 5b unsympathetic	1	a	a	(b)	b	b	1a authoritarian
	4	a	a	(b)	n/(b)	(b)	2a stable

2n Neutral role stability — Appendix 9. (cont.)

2n & Concept 1 (General attitudes)

	row	Attribute combination C1	C2	C3	C4	C5	Dominant attribute in combination
2n & 1a authoritarian	-	no case					-
& 1n neutral	5	n	n	n/(b)	n	n	2n neutral
	11	n	n	n	n	n	4n neutral
	13	n	n	(b)	(a)/n	a	5a sympathetic
	14	n	n	b	a	n	5n neutral
& 1b non-authoritarian	3	b	n	n	(a)/n	a	1b non-authoritarian
	7	b	n	a	n/(b)	b	3a easy-going

2n & Concept 3 (Style of working)

2n & 3a easy-going	7	b	n	a	n/(b)	b	3a easy-going
& 3n neutral	3	b	n	n	(a)/n	a	1b non-authoritarian
	5	n	n	n	n	n	2n neutral
	11	n	n	n	n	n	4n neutral
& 3b serious	5	n	n	(b)	n	n	2n neutral
	13	n	n	(b)	(a)/n	a	5a sympathetic
	14	n	n	b	a	n	5n neutral

2n & Concept 4 (Effect of supervision)

2n & 4a positive	3	b	n	n	(a)	a	1b non-authoritarian
	13	n	n	(b)	(a)	a	5a sympathetic
	14	n	n	b	a	n	5n neutral
& 4n neutral	3	b	n	n	n	a	1b non-authoritarian
	5	n	n	n/(b)	n	n	2n neutral
	7	b	n	a	n	b	3a easy-going
	11	n	n	n	n	n	4n neutral
	13	n	n	(b)	n	a	5a sympathetic
& 4b negative	7	b	n	a	(b)	b	3a easy-going

2n & Concept 5 (Attitudes to individual students)

2n & 5a sympathetic	3	b	n	n	(a)/n	a	1b non-authoritarian
	13	n	n	(b)	(a)/n	a	5a sympathetic
& 5n neutral	5	n	n	n/(b)	n	n	2n neutral
	11	n	n	n	n	n	4n neutral
	14	n	n	b	a	n	5n neutral
& 5b unsympathetic	7	b	n	a	n/(b)	b	3a easy-going

2b Unstable role — Appendix 9. (cont.)

2b & Concept 1 (General attitudes)

	row	Attribute combination C1	C2	C3	C4	C5	Dominant attribute in combination
2b & 1a authoritarian	1	a	b	(b)	b	b	1a authoritarian
	6	a	b	n	b	b	2b unstable
	8	(a)	b	n	n	a	3n neutral
	15	a	b	n/(b)	b	b	5b unsympathetic
& 1n neutral	2	n	(b)	n/(b)	n/(b)	n	1n neutral
	11	n	(b)	n	n	n	4n neutral
	12	n	b	(a)/n	b	b	4b negative
& 1b non-authoritarian	7	b	(b)	a	n/(b)	b	3a easy-going
	8	(b)	b	n	n	a	3n neutral
	12	(b)	b	(a)/n	b	b	4b negative

2b & Concept 3 (Style of working)

	row	C1	C2	C3	C4	C5	
2b & 3a easy-going	7	b	(b)	a	n/(b)	b	3a easy-going
	12	n/(b)	b	(a)	b	b	4b negative
& 3n neutral	2	n	(b)	n	n/(b)	n	1n neutral
	6	a	b	n	b	b	2b unstable
	8	(a)/(b)	b	n	n	a	3n neutral
	11	n	(b)	n	n	n	4n neutral
	12	n/(b)	b	n	b	b	4b negative
	15	a	b	n	b	b	5b unsympathetic
& 3b serious	1	a	b	(b)	b	b	1a authoritarian
	2	n	(b)	(b)	n/(b)	n	1n neutral
	15	a	b	(b)	b	b	5b unsympathetic

2b & Concept 4 (Effect of supervision)

	row	C1	C2	C3	C4	C5	
2b & 4a positive	-	no case					-
& 4n neutral	2	n	(b)	n/(b)	n	n	1n neutral
	7	b	(b)	a	n	b	3a easy-going
	8	(a)/(b)	b	n	n	a	3n neutral
	11	n	(b)	n	n	n	4n neutral
& 4b negative	1	a	b	(b)	b	b	1a authoritarian
	2	n	(b)	n/(b)	(b)	n	1n neutral
	6	a	b	n	b	b	2b unstable
	12	n/(b)	b	(a)/n	b	b	4b negative
	15	a	b	n/(b)	b	b	5b unsympathetic

2b & Concept 5 (Attitudes to individual students)

	row	C1	C2	C3	C4	C5	
2b & 5a sympathetic	8	(a)/(b)	b	n	n	a	3n neutral
& 5n neutral	2	n	(b)	n/(b)	n/(b)	n	1n neutral
	11	n	(b)	n	n	n	4n neutral
& 5b unsympathetic	1	a	b	(b)	b	b	1a authoritarian
	6	a	b	n	b	b	2b unstable
	7	b	(b)	a	n/(b)	b	3a easy-going
	12	n/(b)	b	(a)/n	b	b	4b negative
	15	a	b	n/(b)	b	b	5b unsympathetic

3a Easy-going style of working — Appendix 9. (cont.)

3a & Concept 1 (General attitudes)

	row	Attribute combination C1	C2	C3	C4	C5	Dominant attribute in combination
3a & 1a authoritarian	-	no case					-
& 1n neutral	12	n	b	(a)	b	b	4b negative
& 1b non-authoritarian	7	b	n/(b)	a	n/(b)	b	3a easy-going
	12	(b)	b	(a)	b	b	4b negative

3a & Concept 2 (Role stability)

3a & 2a stable	-	no case					-
& 2n neutral	7	b	n	a	n/(b)	b	3a easy-going
& 2b unstable	7	b	(b)	a	n/(b)	b	3a easy-going
	12	n/(b)	b	(a)	b	b	4b negative

3a & Concept 4 (Effect of supervision)

3a & 4a positive	-	no case					-
& 4n neutral	7	b	n/(b)	a	n	b	3a easy-going
& 4b negative	7	b	n/(b)	a	(b)	b	3a easy-going
	12	n/(b)	b	(a)	b	b	4b negative

3a & Concept 5 (Attitudes to individual students)

3a & 5a sympathetic	-	no case					-
& 5n neutral	-	no case					-
& 5b unsympathetic	7	b	n/(b)	a	n/(b)	b	3a easy-going
	12	n/(b)	b	(a)	b	b	4b negative

3n & Concept 1 (General attitudes)

	row	Attribute combination C1	C2	C3	C4	C5	Dominant attribute in combination
3n & 1a authoritarian	6	a	b	**n**	b	b	2b unstable
	8	(a)	b	n	n	a	3n neutral
	15	a	b	n	b	b	5b unsympathetic
& 1n neutral	2	n	(b)	n	n/(b)	n	1n neutral
	5	n	n	n	n	n	2n neutral
	11	n	n/(b)	n	n	n	4n neutral
	12	n	b	n	b	b	4b negative
& 1b non-authoritarian	3	b	n	n	(a)/n	a	1b non-authoritarian
	8	(b)	b	n	n	a	3n neutral
	10	b	a	n	a	n	4a positive
	12	(b)	b	n	b	b	4b negative

3n & Concept 2 (Role stability)

3n & 2a stable	10	b	a	n	a	n	4a positive
& 2n neutral	3	b	n	n	(a)/n	a	1b non-authoritarian
	5	n	n	n	n	n	2n neutral
	11	n	n	n	n	n	4n neutral
& 2b unstable	2	n	(b)	n	n/(b)	n	1n neutral
	6	a	b	n	b	b	2b unstable
	8	(a)/(b)	b	n	n	a	3n neutral
	11	n	(b)	n	n	n	4n neutral
	12	n/(b)	b	n	b	b	4b negative
	15	a	b	n	b	b	5b unsympathetic

3n & Concept 4 (Effect of supervision)

3n & 4a positive	3	b	n	n	(a)	a	1b non-authoritarian
	10	b	a	n	a	n	4a positive
& 4n neutral	2	n	(b)	n	n	n	1n neutral
	3	b	n	n	n	a	1b non-authoritarian
	5	n	n	n	n	n	2n neutral
	8	(a)/(b)	b	n	n	a	3n neutral
	11	n	n/(b)	n	n	n	4n neutral
& 4b negative	2	n	(b)	n	(b)	n	1n neutral
	6	a	b	n	b	b	2b unstable
	12	n/(b)	b	n	b	b	4b negative
	15	a	b	n	b	b	5b unsympathetic

3n & Concept 5 (Attitudes to individual students)

3n & 5a sympathetic	3	b	n	n	(a)/n	a	1b non-authoritarian
	8	(a)/(b)	b	n	n	a	3n neutral
& 5n neutral	2	n	(b)	n	n/(b)	n	1n neutral
	5	n	n	n	n	n	2n neutral
	10	b	a	n	a	n	4a positive
	11	n	n/(b)	n	n	n	4n neutral
& 5b unsympathetic	6	a	b	n	b	b	2b unstable
	12	n/(b)	b	n	b	b	4b negative
	15	a	b	n	b	b	5b unsympathetic

3b Serious style of working — Appendix 9. (cont.)

3b & Concept 1 (General attitudes)

	row	Attribute combination C1	C2	C3	C4	C5	Dominant attribute in combination
3b & 1a authoritarian	1	a	a/b	(b)	b	b	1a authoritarian
	4	a	a	(b)	n/(b)	n/(b)	2a stable
	15	a	b	(b)	b	b	5b unsympathetic
& 1n neutral	2	n	(b)	(b)	n/(b)	n	1n neutral
	5	n	n	(b)	n	n	2n nautral
	9	n	(a)	b	n	a	3b serious
	13	n	n	(b)	(a)/n	a	5a sympathetic
	14	n	n	b	a	n	5n neutral
& 1b non-authoritarian	10	b	a	(b)	a	n	4n positive

3b & Concept 2 (Role stability)

3b & 2a stable	1	a	a	(b)	b	b	1a authoritarian
	4	a	a	(b)	n/(b)	n/(b)	2a stable
	9	n	(a)	b	n	a	3b serious
& 2n neutral	5	n	n	(b)	n	n	2n neutral
	13	n	n	(b)	(a)/n	a	5a sympathetic
	14	n	n	b	a	n	5n neutral
& 2b unstable	1	a	b	(b)	b	b	1a authoritarian
	2	n	(b)	(b)	n/(b)	n	1n neutral
	15	a	b	(b)	b	b	5b unsympathetic

3b & Concept 4 (Effect of supervision)

3b & 4a positive	10	b	a	(b)	a	n	4a positive
	13	n	n	(b)	(a)	a	5a sympathetic
	14	n	n	b	a	n	5n neutral
& 4n neutral	2	n	(b)	(b)	n	n	1n neutral
	4	a	a	(b)	n	n/(b)	2a stable
	5	n	n	(b)	n	n	2n neutral
	9	n	(a)	b	n	a	3b serious
	13	n	n	(b)	n	a	5a sympathetic
& 4b negative	1	a	a/b	(b)	b	b	1a authoritarian
	2	n	(b)	(b)	(b)	n	1n neutral
	4	a	a	(b)	(b)	n/(b)	2a stable
	15	a	b	(b)	b	b	5b unsympathetic

3b & Concept 5 (Attitudes to individual students)

3b & 5a sympathetic	9	n	(a)	b	n	a	3b serious
	13	n	n	(b)	(a)/n	a	5a sympathetic
& 5n neutral	2	n	(b)	(b)	n/(b)	n	1n neutral
	4	a	a	(b)	n/(b)	n	2a stable
	5	n	n	(b)	n	n	2n neutral
	10	b	a	(b)	a	n	4a positive
	14	n	n	b	a	n	5n neutral
& 5b unsympathetic	1	a	a/b	(b)	b	b	1a authoritarian
	4	a	a	(b)	n/(b)	(b)	2a stable
	15	a	b	(b)	b	b	5b unsympathetic

4a Positive effect

Appendix 9. (cont.)

4a & Concept 1 (General attitudes)

	row	Attribute combination C1	C2	C3	C4	C5	Dominant attribute in combination
4a & 1a authoritarian	-	no case					-
& 1n neutral	13	n	n	(b)	(a)	a	5a sympathetic
	14	n	n	b	a	n	5n neutral
& 1b non-authoritarian	3	b	n	n	(a)	a	1b non-authoritarian
	10	b	a	n/(b)	a	n	4a positive

4a & Concept 2 (Role stability)

4a & 2a stable	10	b	a	n/b	a	n	4a positive
& 2n neutral	3	b	n	n	(a)	a	1b non-authoritarian
	13	n	n	(b)	(a)	a	5a sympathetic
	14	n	n	b	a	n	5n neutral
& 2b unstable	-	no case					-

4a & Concept 3 (Style of working)

4a & 3a easy-going	-	no case					-
& 3n neutral	3	b	n	n	(a)	a	1b non-authoritarian
	10	b	a	n	a	n	4a positive
& 3b serious	10	b	a	(b)	a	n	4a positive
	13	n	n	(b)	(a)	a	5a sympathetic
	14	n	n	b	a	n	5n neutral

4a & Concept 5 (Attitudes to individual students)

4a & 5a sympathetic	3	b	n	n	(a)	a	1b non-authoritarian
	13	n	n	(b)	(a)	a	5a sympathetic
& 5n neutral	10	b	a	n/(b)	a	n	4a positive
	14	n	n	b	a	n	5n neutral
& 5b unsympathetic	-	no case					-

4n & Concept 1 (General attitudes)

	row	Attribute combination C1	C2	C3	C4	C5	Dominant attribute in combination
4n & 1a authoritarian	4	a	a	(b)	n	n/(b)	2a stable
	8	(a)	b	n	n	a	3n neutral
& 1n neutral	2	n	(b)	n/(b)	n	n	1n neutral
	5	n	n	n/(b)	n	n	2n neutral
	9	n	(a)	b	n	a	3b serious
	11	n	n/(b)	n	n	n	4n neutral
	13	n	n	(b)	n	a	5a sympathetic
& 1b non-authoritarian	3	b	n	n	n	a	1b non-authoritarian
	7	b	n/(b)	a	n	b	3a easy-going
	8	(b)	b	n	n	a	3n neutral

4n & Concept 2 (Role stability)

4n & 2a stable	4	a	a	(b)	n	n/(b)	2a stable
	9	n	(a)	b	n	a	3b serious
& 2n neutral	3	b	n	n	n	a	1b non-authoritarian
	5	n	n	n/(b)	n	n	2n neutral
	7	b	n/(b)	a	n	b	3a easy-going
	11	n	n/(b)	n	n	n	4n neutral
	13	n	n	(b)	n	a	5a sympathetic
& 2b unstable	2	n	(b)	n/(b)	n	n	1n neutral
	7	b	(b)	a	n	b	3a easy-going
	8	(a)/(b)	b	n	n	a	3n neutral
	11	n	(b)	n	n	n	4n neutral

4n & Concept 3 (Style of working)

4n & 3a easy-going	7	b	n/(b)	a	n	b	3a easy-going
& 3n neutral	2	n	(b)	n	n	n	1n neutral
	3	b	n	n	n	a	1b non-authoritarian
	5	n	n	n	n	n	2n neutral
	8	(a)/(b)	b	n	n	a	3n neutral
	11	n	n/(b)	n	n	n	4n neutral
& 3b serious	2	n	(b)	(b)	n	n	1n neutral
	4	a	a	(b)	n	n/(b)	2a stable
	5	n	n	(b)	n	n	2n neutral
	9	n	(a)	b	n	a	3b serious
	13	n	n	(b)	n	a	5a sympathetic

4n & Concept 5 (Attitudes to individual students)

4n & 5a sympathetic	3	b	n	n	n	a	1b non-authoritarian
	8	(a)/(b)	b	n	n	a	3n neutral
	9	n	(a)	b	n	a	3b serious
	13	n	n	(b)	n	a	5a sympathetic
& 5n neutral	2	n	(b)	n/(b)	n	n	1n neutral
	4	a	a	(b)	n	n	2a stable
	5	n	n	n/(b)	n	n	2n neutral
	11	n	n/(b)	n	n	n	4n neutral
& 5b unsympathetic	4	a	a	(b)	n	(b)	2a stable
	7	b	n/(b)	a	n	b	3a easy-going

4b Negative effect

Appendix 9. (cont.)

4b & Concept 1 (General attitudes)

	row	Attribute combination C1	C2	C3	C4	C5	Dominant attribute in combination
4b & 1a authoritarian	1	a	a/b	(b)	b	b	1a authoritarian
	4	a	a	(b)	(b)	n/b	2a stable
	6	a	b	n	b	b	2b unstable
	15	a	b	n/(b)	b	b	5b unsympathetic
& 1n neutral	2	n	(b)	n/(b)	(b)	n	1n neutral
	12	n	b	(a)/n	b	b	4b negative
& 1b non-authoritarian	7	b	n/(b)	a	(b)	b	3a easy-going
	12	(b)	b	(a)/n	b	b	4b negative

4b & Concept 2 (Role stability)

4b & 2a stable	1	a	a	(b)	b	b	1a authoritarian
	4	a	a	(b)	(b)	n/(b)	2a stable
& 2n neutral	7	b	n	a	(b)	b	3a easy-going
& 2b unstable	1	a	b	(b)	b	b	1a authoritarian
	2	n	(b)	n/(b)	(b)	n	1n neutral
	6	a	b	n	b	b	2b unstable
	12	n/(b)	b	(a)/n	b	b	4b negative
	15	a	b	n/(b)	b	b	5b unsympathetic

4b & Concept 3 (Style of working)

4b & 3a easy-going	7	b	n/b	a	(b)	b	3a easy-going
	12	n/(b)	b	(a)	b	b	4b negative
& 3n neutral	2	n	(b)	n	(b)	n	1n neutral
	6	a	b	n	b	b	2b unstable
	12	n/(b)	b	n	b	b	4b negative
	15	a	b	n	b	b	5b unsympathetic
& 3b serious	1	a	a/b	(b)	b	b	1a authoritarian
	2	n	(b)	(b)	(b)	n	1n neutral
	4	a	a	(b)	(b)	n/(b)	2a stable
	15	a	b	(b)	b	b	5b unsympathetic

4b & Concept 5 (Attitudes to individual students)

4b & 5a sympathetic	-	no case					-
& 5n neutral	2	n	(b)	n/(b)	(b)	n	1n neutral
	4	a	a	(b)	(b)	n	2a stable
& 5b unsympathetic	1	a	a/b	(b)	b	b	1a authoritarian
	4	a	a	(b)	(b)	(b)	2a stable
	6	a	b	n	b	b	2b unstable
	7	b	n/(b)	a	(b)	b	3a easy-going
	12	n/(b)	b	(a)/n	b	b	4b negative
	15	a	b	n/(b)	b	b	5b unsympathetic

5a Sympathetic attitudes — Appendix 9. (cont.)

5a & Concept 1 (General attitudes)

	row	Attribute combination C1	C2	C3	C4	C5	Dominant attribute in combination
5a & 1a authoritarian	8	(a)	b	n	n	a	3n neutral
& 1n neutral	9	n	(a)	b	n	a	3b serious
	13	n	n	(b)	(a)/n	a	5a sympathetic
& 1b non-authoritarian	3	b	n	n	(a)/n	a	1b non-authoritarian
	8	(b)	b	n	n	a	3n neutral

5a & Concept 2 (Role stability)

5a & 2a stable	9	n	(a)	b	n	a	3b serious
& 2n neutral	3	b	n	n	(a)/n	a	1b non-authoritarian
	13	n	n	(b)	(a)/n	a	5a sympathetic
& 2b unstable	8	(a)/(b)	b	n	n	a	3n neutral

5a & Concept 3 (Style of working)

5a & 3a easy-going	-	no case					-
& 3n neutral	3	b	n	n	(a)/n	a	1b non-authoritarian
	8	(a)/(b)	b	n	n	a	3n neutral
& 3b serious	9	n	(a)	b	n	a	3b serious
	13	n	n	(b)	(a)/n	a	5a sympathetic

5a & Concept 4 (Effect of supervision)

5a & 4a positive	3	b	n	n	(a)	a	1b non-authoritarian
	13	n	n	(b)	(a)	a	5a sympathetic
& 4n neutral	3	b	n	n	n	a	1b non-authoritarian
	8	(a)/(b)	b	n	n	a	3n neutral
	9	n	(a)	b	n	a	3b serious
	13	n	n	(b)	n	a	5a sympathetic
& 4b negative	-	no case					-

5n Neutral attitudes to individual students — Appendix 9. (cont.)

5n & Concept 1 (General attitudes)

	row	Attribute combination C1	C2	C3	C4	C5	Dominant attribute in combination
5n & 1a authoritarian	4	a	a	(b)	n/(b)	n	2a stable
& 1n neutral	2	n	(b)	n/(b)	n/(b)	n	1n neutral
	5	n	n	n/(b)	n	n	2n neutral
	11	n	n/(b)	n	n	n	4n neutral
	14	n	n	b	a	n	5n neutral
& 1b non-authoritarian	10	b	a	n/(b)	a	n	4a positive

5n & Concept 2 (Role stability)

5n & 2a stable	4	a	a	(b)	n/(b)	n	2a stable
	10	b	a	n/(b)	a	n	4a positive
& 2n neutral	5	n	n	n/(b)	n	n	2n neutral
	11	n	n	n	n	n	4n neutral
	14	n	n	b	a	n	5n neutral
& 2b unstable	2	n	(b)	n/(b)	n/(b)	n	1n neutral
	11	n	(b)	n	n	n	4n neutral

5n & Concept 3 (Style of working)

5n & 3a easy-going	-	no case					-
& 3n neutral	2	n	(b)	n	n/(b)	n	1n neutral
	5	n	n	n	n	n	2n neutral
	10	b	a	n	a	n	4a positive
	11	n	n/(b)	n	n	n	4n neutral
& 3b serious	2	n	(b)	(b)	n/(b)	n	1n neutral
	4	a	a	(b)	n/(b)	n	2a stable
	5	n	n	(b)	n	n	2n neutral
	10	b	a	(b)	a	n	4a positive
	14	n	n	b	a	n	5n neutral

5n & Concept 4 (Effect of supervision)

5n & 4a positive	10	b	a	n/(b)	a	n	4a positive
	14	n	n	b	a	n	5n neutral
& 4n neutral	2	n	(b)	n/(b)	n	n	1n neutral
	4	a	a	(b)	n	n	2a stable
	5	n	n	n/(b)	n	n	2n neutral
	11	n	n/(b)	n	n	n	4n neutral
& 4b negative	2	n	(b)	n/(b)	(b)	n	1n neutral
	4	a	a	(b)	(b)	n	2a stable

5b Unsympathetic attitudes

Appendix 9. (cont.)

5b & Concept 1 (General attitudes)

	row	Attribute combination C1	C2	C3	C4	C5	Dominant attribute in combination
5b & 1a authoritarian	1	a	a/b	(b)	b	b	1a authoritarian
	4	a	a	(b)	n/(b)	(b)	2a stable
	6	a	b	n	b	b	2b unstable
	15	a	b	n/(b)	b	b	5b unsympathetic
& 1n neutral	12	n	b	(a)/n	b	b	4b negative
& 1b non-authoritarian	7	b	n/(b)	a	n/(b)	b	3a easy-going
	12	(b)	b	(a)/n	b	b	4b negative

5b & Concept 2 (Role stability)

5b & 2a stable	1	a	a	(b)	b	b	1a authoritarian
	4	a	a	(b)	n/(b)	b	2a stable
& 2n neutral	7	b	n	a	n/(b)	b	3a easy-going
& 2b unstable	1	a	b	(b)	b	b	1a authoritarian
	6	a	b	n	b	b	2b unstable
	7	b	(b)	a	n/(b)	b	3a easy-going
	12	n/(b)	b	(a)/n	b	b	4b negative
	15	a	b	n/(b)	b	b	5b unsympathetic

5b & Concept 3 (Style of working)

5b & 3a easy-going	7	b	n/(b)	a	n/(b)	b	3a easy-going
	12	n/b	b	(a)	b	b	4b negative
& 3n neutral	6	a	b	n	b	b	2b unstable
	12	n/(b)	b	n	b	b	4b negative
	15	a	b	n	b	b	5b unsympathetic
& 3b serious	1	a	a/b	(b)	b	b	1a authoritarian
	4	a	a	(b)	n/(b)	(b)	2a stable
	15	a	b	(b)	b	b	5b unsympathetic

5b & Concept 4 (Effect of supervision)

5b & 4a positive	-	no case					-
& 4n neutral	4	a	a	(b)	n	(b)	2a stable
	7	b	n/(b)	a	n	b	3a easy-going
& 4b negative	1	a	a/b	(b)	b	b	1a authoritarian
	4	a	a	(b)	(b)	(b)	2a stable
	6	a	b	n	b	b	2b unstable
	7	b	n/(b)	a	(b)	b	3a easy-going
	12	n/(b)	b	(a)/n	b	b	4b negative
	15	a	b	n/(b)	b	b	5b unsympathetic

Concepts and **attributes** of the behaviour of supervisors as assessed by student teachers

Factors	Concepts		Attributes
FI	C1	**Supervisor's general attitudes to student teachers**	1a authoritarian 1n neutral 1b non-authoritarian
FII	C2	**Supervisor's role stability**	2a stable 2n neutral 2b unstable
FIII	C3	**Supervisor's style of working**	3a easy-going 3n neutral 3b serious
FIV	C4	**Effect of supervision on student teachers**	4a positive 4n neutral 4b negative
FV	C5	**Supervisor's attitudes to individual student teachers**	5a sympathetic 5n neutral 5b unsympathetic

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